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FOURTEENTH ANNUAL REPORT  
OF THE  
BOARD OF HEALTH,  
OF THE  
CITY OF BOSTON,

For the Year 1885.



BOSTON :  
ROCKWELL AND CHURCHILL CITY PRINTERS,  
No. 39 ARCH STREET.  
1886.

*Dup*



## ORGANIZATION OF THE BOARD OF HEALTH.

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GEORGE F. BABBITT.

WILLIAM TAYLOR.

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[DOCUMENT 31 — 1886.]

# CITY OF BOSTON.



## FOURTEENTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF BOSTON, FOR THE YEAR 1885.

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BOARD OF HEALTH,  
32 PEMBERTON SQUARE, BOSTON, Jan. 1, 1886.

*To the Honorable the Mayor and City Council of Boston: —*

The Board of Health respectfully submits its fourteenth report, the revised ordinances requiring the several departments to submit their reports in the month of January, instead of in May or June, as was provided in the old ordinances.

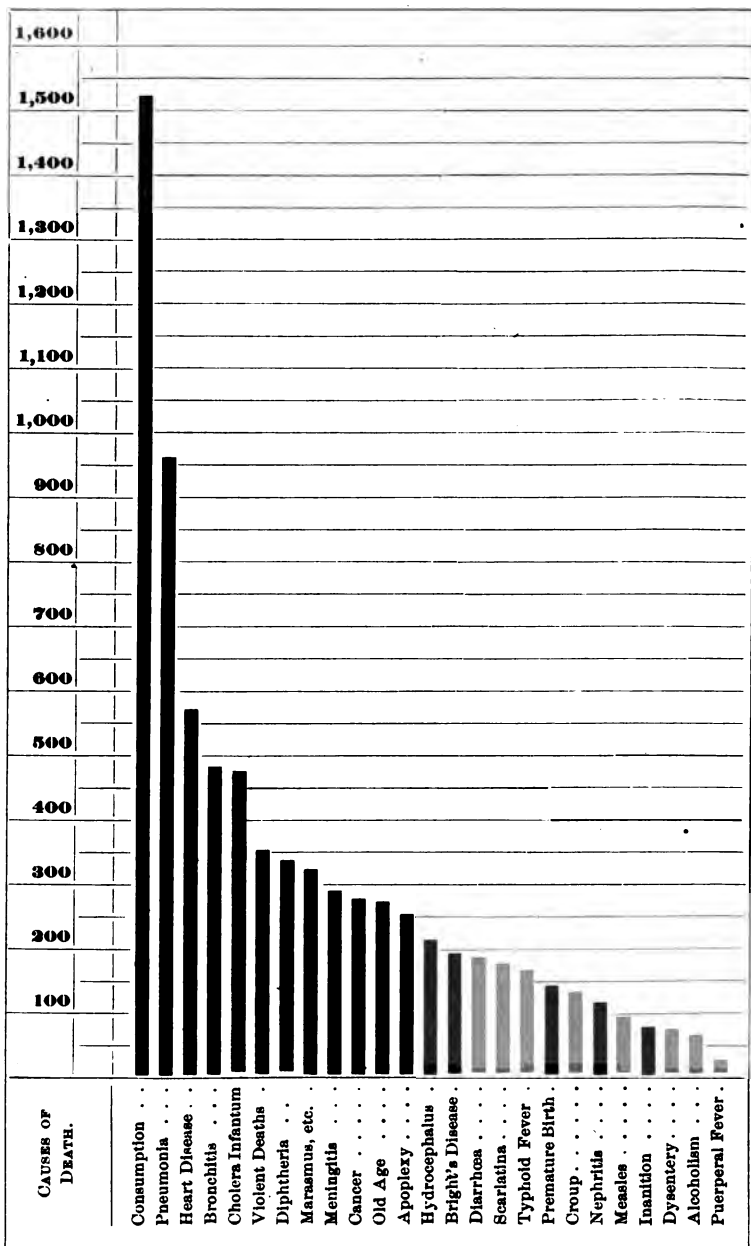
The sanitary condition of the city, as indicated by the statistics of mortality for the past year, as well as by the comparatively low prevalence of preventable diseases, is good. The number of deaths recorded at this office during the year ending December 31, 1885, exclusive of still-births, was 9,618, as compared with 9,622 deaths during the year previous. The death-rate for the past year is 24 to each 1,000 of the population, as compared with a rate of 22.48 for the previous year. The difference in these rates is apparent rather than real. The rate for the past year is calculated on a basis of 400,000 as the population of the city, which is a lower figure by several thousands than that at which the city's population had been estimated the year previous. The census taken last summer, under the supervision of the State

authorities, put the population of the city as 390,393 on the first of May, and the difference between that number and 400,000 is reckoned as the natural increase since that time. But even after adding this number we confidently believe that the population is placed at too low a figure. Facts in abundance might be adduced going to sustain this position, but they have been too frequently mentioned in the public prints to call for repetition here. A census which places the city's population at too low a figure, involves an excessive death-rate, which works incalculable injury to the city in many ways. For this reason, especially, the recommendation of His Honor the Mayor, made last year and renewed in his message of this year, that a police census of the city be taken, deserves favorable consideration.

Although the death-rate of the past year is comparatively high, chiefly for reasons already stated, the absolute number of deaths is less than either of the two years previous, while the record of the number of deaths from preventable causes, which constitutes the true gauge of the efficiency of sanitary administration, shows a very marked falling off from previous years. Two years ago the deaths from these causes constituted one-third of the total number of deaths. Three years ago this number was reduced to about one-fourth of the total deaths. The proportion has continued to decrease until now, when the preventable deaths for the past year are less than one-fifth of the total mortality, or exactly 19.5 per cent. This is a lower death-rate from preventable causes than is recorded in any other of our leading cities, excepting only Philadelphia, where the rate is about the same. The statistics of infant mortality for the year are equally satisfactory, and show a percentage to the total mortality of 36., the lowest for fifteen years, and lower than other leading cities.

The most fatal factor of the city's mortality is consumption, which accounts for over fifteen per cent. of the total number of deaths. Two other respiratory diseases closely associated with consumption are bronchitis and pneumonia, and these three together account for one-fourth of the total mortality. The following chart shows the comparative mortality in the city during the year, from twenty-five of the more prevalent diseases : —

**Comparative View of Twenty-five of the Principal Causes of Death, during the year 1885.**



■ Deaths from Zymotic diseases.

■ Deaths from other diseases.



**Table I.—Total of Deaths, Still-births, and Deaths from Zymotic Diseases for the last Fifteen Years, with Percentages.**

YEARS.	Total Deaths exclusive of still-births.	Still-births.	Total Zymotic Deaths.	Diphtheria and Croup.	Scarlet Fever.	Typhoid Fever.	Cerebro- Spinal Meningitis.	Whooping- Cough.	Measles.	Diarrhoeal Diseases.	Small-pox.	Percentage of Zymotic Deaths to total mortality.	Rate of still-births per 1,000 inhabitants.
1871 . . . .	5,888	543	1,408	128	111	176	3	30	9	756	23	23.91	1.85
1872 . . . .	8,090	560	2,823	94	258	229	60	52	60	1,006	738	34.89	1.91
1873 . . . .	7,869	515	2,626	119	474	243	216	33	16	925	302	33.37	1.76
1874 . . . .	7,812	642	1,899	121	269	202	35	108	41	940	2	24.30	2.19
1875 . . . .	9,060	541	2,722	631	534	227	41	41	65	989	1	30.02	1.58
1876 . . . .	8,253	485	2,439	720	458	145	13	59	2	827	2	29.55	1.41
1877 . . . .	7,316	471	1,890	471	104	156	24	88	2	913	4	25.83	1.37
1878 . . . .	7,636	441	1,980	569	68	120	19	88	145	816	.	25.91	1.28
1879 . . . .	7,398	453	1,935	545	149	119	15	112	2	772	.	26.15	1.24
1880 . . . .	8,531	443	2,321	774	33	154	8	94	49	1,003	1	27.20	1.22
1881 . . . .	9,016	513	2,423	802	35	207	16	77	108	870	6	26.87	1.29
1882 . . . .	8,995	518	2,276	575	75	212	24	92	25	951	8	25.30	1.26
1883 . . . .	9,740	504	2,551	608	211	198	23	81	152	1,023	1	26.19	1.17
1884 . . . .	9,622	503	2,278	487	209	216	26	181	13	855	1	23.67	1.17
1885 . . . .	9,618	520	1,879	469	156	152	19	26	84	723	2	19.53	1.30

**Table II. — Total Number of Deaths under Five Years, Five Years and over, for the last Fifteen Years, with Percentages to the Total Mortality.**

YEARS.	Total Deaths.	Five Years and over.	Under Five Years.	PERCENTAGES.	
				Five Years and over.	Under Five Years.
1871 . . . . .	5,888	3,483	2,395	59.32	40.67
1872 . . . . .	8,090	4,676	3,414	57.77	42.17
1873 . . . . .	7,869	4,580	3,289	58.20	41.79
1874 . . . . .	7,812	4,454	3,358	57.01	42.98
1875 . . . . .	9,060	5,088	3,972	56.15	43.84
1876 . . . . .	8,253	4,722	3,531	57.21	42.78
1877 . . . . .	7,316	4,334	2,982	59.24	40.76
1878 . . . . .	7,636	4,630	3,006	60.76	39.36
1879 . . . . .	7,398	4,593	2,805	62.08	37.91
1880 . . . . .	8,531	5,182	3,349	60.74	39.25
1881 . . . . .	9,016	5,702	3,314	63.24	36.75
1882 . . . . .	8,995	5,844	3,151	64.96	35.03
1883 . . . . .	9,740	6,113	3,627	62.76	37.23
1884 . . . . .	9,622	6,052	3,570	62.89	37.10
1885 . . . . .	9,618	6,152	3,466	63.97	36.03

**Table III.—Deaths during the Year 1885.**  
*By Sex, Condition, Color, Nativity, Parentage, and Season.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
<b>Total number of deaths .</b>	869	796	855	931	838	715	1,004	852	736	703	664	665	9,618
<i>Sex :—</i>													
<b>Males . . . . .</b>	422	385	446	441	405	366	535	441	375	349	327	331	4,823
<b>Females . . . . .</b>	437	411	409	490	433	349	469	411	361	354	337	334	4,795
<i>Condition :—</i>													
<b>Married . . . . .</b>	265	276	250	271	256	224	233	225	218	221	229	192	2,860
<b>Single . . . . .</b>	496	408	453	504	481	424	691	537	432	407	346	355	5,539
<b>Widows . . . . .</b>	75	72	108	117	75	51	52	62	64	48	67	84	875
<b>Widowers . . . . .</b>	22	33	34	31	24	13	22	17	16	18	14	28	272
<b>Unknown . . . . .</b>	1	7	5	8	2	3	6	11	6	9	8	6	72
<i>Color :—</i>													
<b>Whites . . . . .</b>	833	778	836	912	815	705	979	828	718	685	647	650	9,386
<b>Colored . . . . .</b>	26	18	19	19	23	10	25	24	18	18	17	15	232
<i>Nativity :—</i>													
<b>United States . . . . .</b>	578	498	558	609	564	480	751	601	493	465	437	420	6,454
<b>Ireland . . . . .</b>	165	180	196	203	157	137	161	160	157	139	132	149	1,936
<b>England . . . . .</b>	15	20	13	18	19	22	19	22	10	16	15	13	202
<b>Scotland . . . . .</b>	4	6	4	11	10	1	5	5	3	5	3	8	65
<b>Germany . . . . .</b>	13	15	12	20	14	11	10	11	13	12	14	8	153
<b>British Provinces . . . . .</b>	56	35	36	44	49	31	27	38	36	38	42	33	465
<b>Other Countries . . . . .</b>	16	22	19	8	10	18	12	11	12	13	12	21	174
<b>Unknown . . . . .</b>	12	20	17	18	15	15	19	4	12	15	9	13	169
<i>Parentage :—</i>													
<b>American . . . . .</b>	222	218	234	247	215	179	236	224	172	182	182	167	2,478
<b>Irish . . . . .</b>	311	307	335	344	322	265	380	312	297	259	237	249	3,618
<b>England . . . . .</b>	20	17	21	23	17	23	17	26	25	24	17	18	248
<b>Scotland . . . . .</b>	10	6	8	21	18	2	8	10	3	9	5	11	111
<b>Germany . . . . .</b>	21	22	18	32	27	22	34	28	30	22	27	10	293
<b>British Provinces . . . . .</b>	54	32	29	35	44	39	53	47	33	34	33	42	480
<b>Other Countries . . . . .</b>	65	58	57	69	56	61	90	65	54	49	50	53	727
<b>Mixed . . . . .</b>	77	71	79	78	62	60	108	77	55	53	67	54	831
<b>Unknown . . . . .</b>	79	65	74	82	77	64	78	63	67	71	51	61	832

Table IV.—Deaths from Principal Zymotic Diseases.

	Total deaths from each cause.	Percentage of each cause to total mortality.	Deaths per 1,000 inhabitants.	Total deaths per sex.		Total deaths per sex under five years.		Total deaths under five years.	Percentage of each cause under five years to total mortality.
				M.	F.	M.	F.		
Small-pox . . . . .	2	.020	.005	1	1	...	...	...	...
Measles . . . . .	84	.873	.210	46	38	42	33	75	.779
Scarlatina . . . . .	156	1.621	.390	79	77	61	45	106	1.102
Diphtheria . . . . .	334	3.472	.835	148	186	89	118	207	2.152
Croup . . . . .	125	1.299	.312	65	60	58	50	108	1.122
Whooping-cough . . . . .	26	.270	.065	15	11	14	10	24	.249
Typhoid Fever . . . . .	152	1.580	.380	76	76	3	...	3	.031
Erysipelas . . . . .	40	.415	.100	24	16	9	7	16	.166
Puerperal Fever . . . . .	20	.207	.050	...	20	...	...	...	...
Carbuncle . . . . .	7	.072	.017	5	2	...	...	...	...
Dysentery . . . . .	62	.644	.155	22	40	8	13	21	.218
Diarrhoea . . . . .	170	1.767	.425	82	88	70	68	138	1.434
Cholera-morbus . . . . .	30	.319	.075	7	23	2	1	3	.031
Cholera Infantum . . . . .	461	4.793	1.152	239	222	238	221	459	4.772
Cerebro-spinal Fever . . . . .	19	.197	.047	7	12	5	6	11	.114
Intermittent Fever . . . . .	3	.031	.007	...	3	...	...	...	...
Remittent Fever . . . . .	2	.020	.005	1	1	...	...	...	...
Rheumatism . . . . .	39	.405	.097	21	18	1	...	1	.010
Pyæmia . . . . .	11	.114	.027	8	3	1	1	2	.02
Syphilis, Congenital . . . . .	21	.218	.052	...	...	8	13	21	.218
Syphilis, Tertiary . . . . .	10	.103	.025	5	5	...	...	...	...
Purpura . . . . .	2	.020	.005	2	...	1	...	1	.01
Alcoholism . . . . .	55	.571	.137	43	12	...	...	...	...
Septicæmia . . . . .	31	.322	.077	15	16	1	2	3	.031
Yellow Fever . . . . .	1	.010	.002	1	...	...	...	...	...
Tonsillitis . . . . .	5	.051	.012	3	2	2	...	2	.020

Table V.—Deaths from Ten of the Principal Causes.

	Total deaths from each cause.	Percentage of each cause to total mortality.	Deaths per 1,000 inhabitants.	Total deaths per sex.		Total deaths per sex, under five years.		Total deaths under five years.	Percentage of each cause under five years to total mortality.
				M.	F.	M.	F.		
Consumption . . . . .	1,523	15.836	3.807	721	802	88	25	63	.655
Pneumonia . . . . .	963	10.012	2.407	525	438	152	120	272	2.828
Heart Disease . . . . .	563	5.853	1.407	276	287	8	5	13	.135
Bronchitis . . . . .	487	5.063	1.217	229	258	169	168	337	3.503
Cholera Infantum . . . .	461	4.793	1.152	239	222	238	221	459	4.723
Accidental and Violent . .	350	3.639	.875	268	82	29	13	42	.436
Diphtheria . . . . .	334	3.472	.835	148	186	89	118	207	2.152
Marasmus, Tabes Mésenterica, and Scrofula . . .	319	3.316	.797	161	158	149	128	277	2.880
Meningitis . . . . .	286	2.973	.715	164	122	127	96	223	2.318
Cancer . . . . .	274	2.848	.685	75	199	1	1	2	.020

Table VI.—Aggregate and Average Age and Parentage of Decedents.

1885.	American Parentage.			Foreign Parentage.			Mixed Parentage.			One Parent Known.			Unknown.			Total of all Parentages.		
	Number of Deaths.	Aggregate Age.	Average Age.	Number of Deaths.	Aggregate Age.	Average Age.	Number of Deaths.	Aggregate Age.	Average Age.	Number of Deaths.	Aggregate Age.	Average Age.	Number of Deaths.	Aggregate Age.	Average Age.	Number of Deaths.	Aggregate Age.	Average Age.
January . . . .	222	7,579	34.21	481	15,111	31.41	77	707	9.18	23	415	18.04	56	2,543	45.41	869	26,353	30.38
February . . . .	218	8,121	37.25	442	15,384	34.76	71	607	8.55	12	316	26.33	53	2,112	39.35	796	26,522	33.32
March . . . . .	234	8,524	36.42	468	16,629	35.53	79	493	5.54	18	217	12.05	56	2,328	41.57	865	28,138	32.91
April . . . . .	247	7,987	32.33	524	17,899	34.15	78	845	10.83	13	233	17.92	69	3,232	46.23	931	30,187	32.43
May . . . . .	215	7,430	34.55	484	14,287	29.51	62	831	13.56	31	347	11.19	46	1,546	33.61	838	24,444	29.17
June . . . . .	179	5,228	29.21	412	12,834	31.15	60	428	7.13	20	28	1.40	44	1,876	42.63	715	20,396	28.52
July . . . . .	236	6,710	29.19	582	13,424	23.06	108	649	6.01	23	167	7.26	55	1,912	34.76	1,004	21,863	21.77
August . . . . .	224	5,631	25.13	488	13,665	28.06	77	540	7.01	27	237	8.77	36	1,411	39.19	852	21,516	25.26
September . . . .	172	5,769	33.54	442	12,847	29.06	55	373	6.78	21	30	1.43	46	1,939	42.15	736	20,960	28.47
October . . . . .	182	5,529	30.37	397	12,347	31.10	53	387	7.30	21	245	11.66	50	1,795	35.90	703	20,306	28.88
November . . . .	182	6,474	35.57	374	11,723	31.07	57	529	9.28	11	2	.18	40	1,896	47.40	664	20,628	31.06
December . . . .	167	6,779	40.59	383	12,492	32.61	54	559	11.35	22	190	8.63	39	2,126	54.51	665	22,148	33.30
Total . . . . .	2,478	80,766	32.54	5,477	168,658	30.79	831	6,898	8.30	242	2,432	10.05	590	24,724	41.90	9,618	263,480	29.47

**Table VII. — Difference in Years between the Average Age of Decedents of Mixed, Foreign, and American Parentage.**

MONTHS.	1885.					
	Average Age.		Difference.	Average Age.		
	American.	Foreign.		American.	Mixed.	Difference.
January . . . . .	34.21	31.41	2.80	34.21	9.18	25.03
February . . . . .	37.25	34.76	2.49	37.25	8.55	28.70
March . . . . .	36.42	35.53	.89	36.42	5.54	30.88
April . . . . .	32.33	34.15	—1.82	32.33	10.83	21.50
May . . . . .	34.55	29.51	5.04	34.55	13.56	20.99
June . . . . .	29.21	31.16	—1.94	29.21	7.13	22.08
July . . . . .	24.19	23.06	1.13	24.19	6.01	18.18
August . . . . .	25.13	28.06	—2.93	25.13	7.01	18.12
September . . . . .	33.54	29.06	4.48	33.54	6.78	26.76
October . . . . .	30.37	31.10	—73	30.37	7.30	23.07
November . . . . .	35.57	31.07	4.50	35.57	9.28	26.29
December . . . . .	40.59	32.61	7.98	40.59	11.35	29.24
Total . . . . .	32.54	30.79	1.75	32.54	8.30	24.24

**Table XI. — Ten of the Principal Causes of Death, arranged by Age and Sex.**

	Under 1 yr.		1 yr. and 2 yrs.		2 yrs. and 3 yrs.		3 yrs. and 4 yrs.		4 yrs. and 5 yrs.		Total under 5 yrs.		5 yrs. and 10 yrs.		10 yrs. and 20 yrs.		20 yrs. and 30 yrs.		30 yrs. and 40 yrs.		40 yrs. and 50 yrs.		50 yrs. and 60 yrs.		60 yrs. and 70 yrs.		70 yrs. and 80 yrs.		80 yrs. and 90 yrs.		90 yrs. and 100 yrs.		Total of all ages.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Consumption . . . . .	17	12	13	8	3	5	4	1	38	25	2	8	63	91	208	252	163	187	117	101	64	64	42	44	19	21	4	9	1	..	..	721	802
Pneumonia . . . . .	59	42	45	43	21	18	11	16	6,152	120	18	18	8	14	42	26	70	52	67	31	56	52	58	59	39	48	13	17	2	1	..	525	438
Heart Disease . . . . .	5	1	2	..	..	..	1	1	1	8	5	6	7	19	17	20	19	25	29	38	47	49	66	56	33	43	12	14	2	..	..	276	287
Bronchitis . . . . .	113	98	40	50	9	14	5	5	2	1,109	168	5	3	1	2	3	4	6	4	5	8	12	8	13	19	11	26	4	15	1	..	229	258
Cholera Infantum . . . . .	205	186	30	30	3	3	2	..	238	221	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	239	222
Accidental and Violent . . . . .	15	6	3	4	6	1	2	3	29	13	16	6	22	5	53	9	45	10	43	7	26	7	21	10	9	4	6	1	..	..	268	82	
Diphtheria . . . . .	10	15	21	28	28	17	15	30	15	28	89	118	45	51	11	14	..	2	2	1	..	..	..	..	..	..	..	..	..	..	..	146	186
Marasmus, Tabes Mesenterica, and Scrofula . . . . .	128	108	15	10	4	6	1	1	3,149	128	1	6	1	3	..	1	..	1	2	3	4	2	6	4	5	2	1	..	..	..	..	161	158
Meningitis . . . . .	66	49	32	28	14	9	10	8	5	7,127	96	5	9	5	2	9	5	7	1	4	3	6	3	1	..	3	..	..	..	..	..	164	122
Cancer . . . . .	..	1	..	..	..	1	..	..	..	1	1	..	..	1	1	3	10	2	25	13	40	21	62	22	38	10	20	2	4	..	..	75	199



Table XII. — Deaths from Principal Zymotic Diseases, by Sex and Month, with Nativity of Parents.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Nativity of Parents.								Total.														
														Irish.	English.	Scottish.	German.	British Prov.	Other Countries.	Mixed.	Unknown.															
Small-pox . . . . .	1	3	4	5	3	1	7	7	9	9	5	8	3	2	2	1	2	2	1	1	46	38	15	27	2	5	3	14	12	6	84					
Measles . . . . .	7	6	6	5	11	12	9	7	11	5	11	8	5	4	5	3	2	8	2	4	5	4	4	79	77	53	36	3	1	5	6	13	36	3	156	
Scarlatina . . . . .	22	23	15	20	10	14	17	10	7	16	12	13	9	14	3	8	6	12	14	16	19	16	14	18	146	186	89	82	5	2	10	33	43	59	11	334
Diphtheria . . . . .	12	8	8	5	7	4	2	8	5	6	5	8	4	4	3	1	4	4	2	6	7	5	7	65	60	29	36	5	2	3	10	15	24	1	125	
Croup . . . . .	5	3	1	3	1	1	2	1	2	4	1	1	1	1	1	1	1	2	1	1	1	1	15	11	4	8	1	3	1	3	8	1	26			
Whooping-cough . . . . .	5	5	4	8	3	4	2	7	4	3	5	3	9	7	8	6	15	12	10	14	6	3	5	4	76	76	40	53	5	1	6	12	14	12	4	152
Typhoid Fever . . . . .	5	5	2	4	5	1	3	2	3	2	2	1	1	1	1	1	1	1	1	2	1	1	24	16	6	18	1	2	1	1	3	5	4	40		
Erysipelas . . . . .	4	2	2	2	4	3	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	20	5	7	1	1	3	2	1	3	2	1	20		
Puerperal Fever . . . . .	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	2	4	1	1	1	1	1	1	1	7			
Carbuncle . . . . .	3	3	1	1	2	1	1	2	1	3	1	5	6	8	13	3	9	1	3	1	3	22	40	19	21	2	1	1	7	2	9	62				
Dysentery . . . . .	5	6	3	4	4	3	4	4	6	9	11	14	13	12	11	9	8	6	7	8	7	5	7	82	88	22	34	2	2	6	10	4	14	77	170	
Diarrhoea . . . . .	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	23	6	21	1	1	1	1	1	1	30			
Cholera-morbus . . . . .	1	1	1	1	2	1	2	1	6	10	121	105	72	63	26	31	8	8	1	2	1	239	222	108	115	16	1	18	36	62	77	80	461			
Cholera Infantum . . . . .	2	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	12	6	6	1	2	1	2	1	2	1	19			
Cerebro-spinal Fever . . . . .																																				

[illegible]

Table XIII.—Deaths from Principal Zymotic Diseases arranged by Age and Sex.

	Under 1 yr.		1 yr. and under 2 yrs.		2 yrs. and under 3 yrs.		3 yrs. and under 4 yrs.		4 yrs. and under 5 yrs.		Total under 5 yrs.		10 yrs. and under 20 yrs.		20 yrs. and under 30 yrs.		30 yrs. and under 40 yrs.		40 yrs. and under 50 yrs.		50 yrs. and under 60 yrs.		60 yrs. and under 70 yrs.		70 yrs. and under 80 yrs.		80 yrs. and under 90 yrs.		90 yrs. and under 100 yrs.		Total of all ages.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Small-pox . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.
Measles . . . . .	18	10	18	12	2	5	1	5	3	1	42	33	3	2	1	.	3	.	.	.	.	.	.	.	.	.	.	.	.	46	38	.	.
Scarlatina . . . . .	5	3	16	15	21	10	10	9	7	61	45	15	28	1	2	2	1	.	1	.	.	.	.	.	.	.	.	.	.	79	77	.	.
Diphtheria . . . . .	10	15	21	28	28	17	15	30	15	28	89	118	45	51	11	14	.	.	2	2	1	.	.	.	.	.	.	.	148	186	.	.	
Croup . . . . .	10	3	27	14	9	19	6	7	9	7	58	50	7	8	.	2	.	.	.	.	.	.	.	.	.	.	.	.	65	60	.	.	
Whooping-cough . . . . .	7	5	5	4	1	.	.	1	1	1	14	10	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	15	11	.	.	
Typhoid Fever . . . . .	.	.	.	.	1	1	.	1	1	3	5	6	11	17	27	23	13	15	8	7	5	3	4	1	1	.	.	.	76	76	.	.	
Erysipelas . . . . .	8	7	1	.	.	.	.	.	.	9	7	.	.	3	1	2	1	2	.	1	1	2	1	4	2	1	2	.	24	16	.	.	
Puerperal Fever . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	2	8	.	9	.	1	.	.	.	.	.	.	.	.	.	.	20	.	.	5	
Carbuncle . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	2	2	.	2	.	.	.	.	.	.	.	5	2	.	2	
Dysentery . . . . .	2	3	1	5	1	2	3	3	1	8	13	2	4	3	1	2	1	4	.	3	3	5	.	4	1	.	3	.	22	40	.	3	
Diarrhea . . . . .	59	58	9	5	2	3	.	2	.	70	68	.	.	.	.	2	1	1	3	1	1	3	7	4	3	.	2	.	1	82	88	.	1
Cholera-morbus . . . . .	1	.	1	.	1	.	.	1	1	2	1	1	1	1	2	.	2	3	2	4	.	3	1	2	1	5	.	7	23	.	7		
Cholera Infantum . . . . .	205	186	30	30	3	3	2	.	.	238	221	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	239	222	.	239
Cerebro-spinal Fever . . . . .	4	4	2	1	.	.	.	.	.	5	6	2	2	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.	7	12	.	7	
Intermittent Fever . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	.	1	3	

[illegible]

Table XIV. — The Number and Percentages of Deaths in each Quarter of each Year during a Period of Twenty one Years, 1865-1885, inclusive.

YEARS.	FIRST QUARTER.		SECOND QUARTER.		THIRD QUARTER.		FOURTH QUARTER.		Rate per 1,000 Inhabitants.
	Deaths.	Per cent.	Deaths.	Per cent.	Deaths.	Per cent.	Deaths.	Per cent.	
1865	1,116	24.55	1,068	23.52	1,353	29.80	1,005	22.13	23.6
1866	999	22.81	957	21.85	1,338	30.56	1,085	24.78	22.4
1867	1,071	24.22	950	21.49	1,191	26.94	1,209	27.35	22.3
1868	1,341	24.30	1,203	21.80	1,736	31.45	1,239	22.45	23.9
1869	1,374	24.88	1,297	23.48	1,562	28.28	1,290	23.36	23.4
1870	1,395	22.88	1,314	21.55	1,983	32.52	1,406	23.05	24.3
1871	1,411	23.97	1,299	22.06	1,842	31.28	1,336	22.69	23.
1872	1,697	20.97	1,777	21.97	2,511	31.04	2,105	26.02	31.80
1873	2,115	26.88	1,726	21.93	2,278	28.95	1,750	22.24	30.27
1874	1,805	23.11	1,818	23.27	2,278	29.16	1,911	24.46	24.9
1875	2,190	24.45	2,011	22.19	2,680	29.92	2,179	24.32	24.95
1876	2,246	27.21	1,809	21.91	2,375	28.77	1,823	22.08	23.89
1877	1,723	23.55	1,613	22.04	2,317	31.67	1,663	22.73	20.15
1878	1,743	22.82	1,744	22.83	2,174	28.47	1,975	25.86	21.03
1879	1,947	26.30	1,615	21.83	1,959	26.48	1,877	25.37	20.38

1880.....	2,015	23.62	1,829	21.45	2,500	29.30	2,187	28.63	22.53
1881.....	2,332	25.86	2,021	22.41	2,466	27.34	2,197	24.38	22.67
1882.....	2,104	23.39	2,212	24.59	2,489	27.67	2,190	24.35	21.91
1883.....	2,268	23.28	2,409	24.74	2,757	28.31	2,306	23.67	22.76
1884.....	2,284	23.73	2,103	21.65	2,725	28.33	2,510	26.09	22.48
1885.....	2,510	26.10	2,484	25.82	2,592	26.95	2,032	21.13	24.04

**Table XV.—Total Deaths each Quarter of the last Five Years, with the Aggregate and Average Number from 1876 to 1880, inclusive.**

	1881.	1882.	1883.	1884.	1885.	5 years, 1876-1880.	
						Aggregate.	Average.
First Quarter . . . .	2,332	2,104	2,268	2,284	2,510	9,674	1,934
Second Quarter . . .	2,021	2,212	2,400	2,103	2,484	8,610	1,742
Third Quarter . . . .	2,466	2,489	2,757	2,725	2,592	11,325	2,265
Fourth Quarter . . .	2,197	2,190	2,306	2,510	2,032	9,525	1,905
Total for each year .	9,016	8,995	9,740	9,622	9,618	39,134	7,826

**Table XVI.—Total Deaths and Percentages each Quarter for the year 1885, with Aggregates and Percentages for the Ten Years previous.**

	1885.		1875-1884.	
	Deaths.	Per cent.	Deaths.	Per cent.
First Quarter . . . . .	2,510	26.10	20,852	24.38
Second Quarter . . . . .	2,484	25.82	19,366	22.63
Third Quarter . . . . .	2,592	26.95	24,442	28.56
Fourth Quarter . . . . .	2,032	21.13	20,907	24.43
Total . . . . .	9,618	100.00	85,567	100.00

Table No. XVII.—Parentage of Children under One, Two, and Five Years for each Month during the Year 1885.

	JANUARY.			FEBRUARY.			MARCH.			APRIL.			MAY.			JUNE.		
	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.
United States . . . . .	41	13	22	41	12	18	33	24	10	61	22	15	44	17	12	30	14	13
Foreign . . . . .	69	28	35	48	25	37	42	24	34	62	32	37	63	43	35	59	29	30
Mixed . . . . .	28	14	13	39	10	8	37	20	14	15	19	17	20	10	12	29	6	13
One parent known . . . . .	13	1	7	1	1	1	13	2	1	6	1	1	25	1	1	22	1	1
Unknown . . . . .	5	1	1	7	1	2	9	1	1	9	1	1	11	1	1	6	1	1
Total . . . . .	156	56	72	142	49	65	134	70	65	153	74	70	163	73	61	146	49	56

	JULY.			AUGUST.			SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.		
	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.	Under 1 yr.	1 yr. and under 2 yrs.	2 yrs. and under 5 yrs.
United States . . . . .	91	22	15	93	18	8	51	7	13	41	16	12	39	10	10	33	3	11
Foreign . . . . .	176	44	39	117	33	16	93	22	15	65	26	30	52	22	21	60	22	26
Mixed . . . . .	65	14	7	42	7	8	29	5	9	30	3	7	25	4	7	23	9	6
One parent known . . . . .	20	1	1	24	2	1	20	1	1	12	1	1	8	1	1	13	1	1
Unknown . . . . .	12	1	1	3	1	1	5	1	2	7	1	1	8	1	1	5	1	1
Total . . . . .	364	80	63	279	60	32	198	34	39	165	45	49	132	37	38	134	33	44



Table XVIII. — Cases Reported, and Deaths from Small-pox, Diphtheria, Scarlet Fever, and Typhoid Fever, With Percentages.

DATE.	SMALL-POX. <sup>1</sup>		Percentages.	DIPHTHERIA.		Percentages.	SCARLET FEVER.		Percentages.	TYPHOID FEVER.		Percentages.
	Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.	
1872 . . . . .	2,592	738	28.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
1873 . . . . .	1,103	302	27.3	.....	.....	.....	.....	.....	.....	.....	.....	.....
1874 . . . . .	7	2	28.5	.....	.....	.....	.....	.....	.....	.....	.....	.....
1875 . . . . .	6	1	20.0	.....	.....	.....	.....	.....	.....	.....	.....	.....
1876 . . . . .	6	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1877 . . . . .	17	4	23.5	.....	.....	.....	1,834	104	7.7	.....	.....	.....
1878 . . . . .	.....	.....	.....	1,870	448	32.7	848	68	8.0	.....	.....	.....
1879 . . . . .	.....	.....	.....	1,167	391	33.5	951	149	15.6	.....	.....	.....
1880 . . . . .	4	1	25.0	1,715	588	34.2	497	83	6.6	{ Oct. 1st to Dec. 31st. }	{ Oct. 1st to Dec. 31st. }	.....
1881 . . . . .	44	6	13.6	1,680	601	35.7	383	35	9.1			
1882 . . . . .	24	8	33.3	1,386	458	33.04	689	75	10.8	335	76	26.8
1883 . . . . .	8	1	12.4	1,415	445	31.4	1,408	211	14.9	806	212	26.2
1884 . . . . .	1	1	100.0	1,212	345	28.46	2,626	209	8.2	887	198	22.3
1885 . . . . .	11 <sup>2</sup>	1	9.0	1,263	334	26.44	1,665	156	9.2	948	216	22.6
										767	153	19.8

<sup>1</sup> Exclusive of Quarantine. — <sup>2</sup> At Quarantine two cases and one death.

**Table XIX.—Result of Examination of Houses where Diphtheria was reported to exist.**

WARDS.	Mistake in report made by physician.	Defective sanitary condition.	Premises in good sanitary condition.	No examination made.	Total.	Fatal cases.
I. ....	.....	35	12	2	49	8
II. ....	.....	45	9	1	55	11
III. ....	1	7	3	.....	11	4
IV. ....	1	29	5	1	36	3
V. ....	3	19	13	2	37	4
VI. ....	.....	18	35	1	54	8
VII. ....	1	21	19	.....	41	14
VIII. ....	.....	86	11	.....	97	28
IX. ....	.....	11	6	2	19	6
X. ....	1	4	4	.....	9	1
XI. ....	1	20	23	1	45	12
XII. ....	2	24	8	.....	34	9
XIII. ....	.....	30	7	1	38	17
XIV. ....	2	33	14	1	50	20
XV. ....	.....	41	8	2	51	11
XVI. ....	.....	34	11	2	47	11
XVII. ....	2	27	12	3	44	5
XVIII. ....	2	13	11	2	28	77 <sup>1</sup>
XIX. ....	4	81	19	2	106	14
XX. ....	1	69	11	1	82	18
XXI. ....	3	78	22	2	105	11
XXII. ....	.....	44	15	2	61	17
XXXIII. ....	4	30	12	.....	46	5
XXIV. ....	1	58	35	3	97	16
XXV. ....	2	12	5	.....	19	4
Cases found to be out of the city .....	.....	.....	.....	.....	2	.....
Total .....	31	869	330	31	1,233	334

<sup>1</sup> Of 77 deaths, 75 occurred at the Boston City Hospital.  
Number of cases reported from City Hospital, 107.

**Table XX.—Showing the Yearly Mortality from Small-pox, Cholera, Typhus Fever, Typhoid Fever, and Yellow Fever, for the last 29 to 46 Years.**

Date.	Small-pox.	Cholera.	Typhus Fever.	Typhoid Fever.	Yellow Fever.
1840 . . . . .	115	...	...	...	...
1841 . . . . .	57	...	...	...	...
1842 . . . . .	42	...	...	...	...
1843 . . . . .	55	...	...	...	...
1844 . . . . .	...	...	...	...	...
1845 . . . . .	31	...	...	...	...
1846 . . . . .	92	...	...	...	...
1847 . . . . .	23	...	...	...	...
1848 . . . . .	21	...	...	...	...
1849 . . . . .	21	611	119	...	...
1850 . . . . .	192	1	61	43	...
1851 . . . . .	63	5	88	82	...
1852 . . . . .	12	...	46	66	...
1853 . . . . .	6	...	44	67	...
1854 . . . . .	118	218	38	62	...
1855 . . . . .	132	...	12	78	...
1856 . . . . .	78	...	6	70	...
1857 . . . . .	2	...	3	83	1
1858 . . . . .	3	1	2	73	5
1859 . . . . .	156	...	...	74	...
1860 . . . . .	162	...	...	...	...
1861 . . . . .	7	...	...	...	...
1862 . . . . .	13	2 <sup>1</sup>	...	85	...
1863 . . . . .	11	2 <sup>1</sup>	...	130	...
1864 . . . . .	113	...	10	107	...
1865 . . . . .	115	4 <sup>1</sup>	12	125	...
1866 . . . . .	51	11	8	93	...
1867 . . . . .	144	1 <sup>1</sup>	3	86	1
1868 . . . . .	8	2 <sup>1</sup>	1	120	1
1869 . . . . .	6	...	...	148	...
1870 . . . . .	32	...	...	168	1
1871 . . . . .	28	4 <sup>1</sup>	...	176	...
1872 . . . . .	738	...	...	229	...
1873 . . . . .	302	...	...	243	...
1874 . . . . .	2	...	...	202	...

<sup>1</sup> Doubtful.

**Table XX.** — *Concluded.*

Date.	Small-pox.	Cholera.	Typhus Fever.	Typhoid Fever.	Yellow Fever.
1875 . . . . .	1	. . .	. . .	227	. . .
1876 . . . . .	2	. . .	. . .	145	. . .
1877 . . . . .	4	. . .	2	156	2
1878 . . . . .	0	. . .	. . .	120	. . .
1879 . . . . .	0	. . .	1	119	. . .
1880 . . . . .	1	. . .	. . .	154	. . .
1881 . . . . .	6	. . .	. . .	207	. . .
1882 . . . . .	8	. . .	. . .	212	. . .
1883 . . . . .	1	. . .	2	198	. . .
1884 . . . . .	1	. . .	1	216	1
1885 . . . . .	2	. . .	. . .	152	1

TABLE XXI. — DISEASES ARRANGED ALPHABETICALLY.

Abortion . . . . .	3
Abscess, not located . . . . .	13
" of brain . . . . .	2
" of liver . . . . .	2
" of neck . . . . .	2
" of pelvis . . . . .	7
" of pharynx . . . . .	1
" of rectum . . . . .	2
" of kidney . . . . .	4
Accidents (not specified) . . . . .	120
" burns and scalds . . . . .	28
" drowned . . . . .	47
" fall . . . . .	27
" fracture of leg . . . . .	2
" " arm . . . . .	1
" " neck . . . . .	2
" " skull . . . . .	32
" " spine . . . . .	5
" " thigh . . . . .	11
" overlaid . . . . .	2
" poisoning . . . . .	4
" railroad . . . . .	58
" suffocation . . . . .	9
" pistol-shot wound . . . . .	2
Alcoholism . . . . .	55
Anæmia . . . . .	11
" pernicious . . . . .	5
Aneurism (not located) . . . . .	5
" of aorta . . . . .	7
Angina pectoris . . . . .	14
Anus, imperforate . . . . .	5
Apoplexy . . . . .	249
Asthenia . . . . .	13
Atelectasis, cardiac . . . . .	3
" congenital . . . . .	8
" pulmonum . . . . .	16

Atrophy . . . . .	4
Brain, disease of (not specified) . . . . .	37
“ concussion of . . . . .	5
“ congestion of . . . . .	25
“ embolism . . . . .	10
“ inflammation of . . . . .	8
“ softening of . . . . .	24
“ tumor of . . . . .	6
Bronchitis (not classified) . . . . .	332
“ acute . . . . .	29
“ capillary . . . . .	75
“ chronic . . . . .	51
Cancer (not located) . . . . .	78
“ of arm . . . . .	2
“ of abdomen . . . . .	5
“ of bladder . . . . .	3
“ of bowels . . . . .	8
“ of breast . . . . .	26
“ of face . . . . .	8
“ of kidney . . . . .	3
“ of œsophagus . . . . .	1
“ of liver . . . . .	32
“ of lungs . . . . .	1
“ of neck . . . . .	4
“ of œsophagus . . . . .	1
“ of ovaries . . . . .	2
“ of pelvis . . . . .	1
“ of pancreas . . . . .	2
“ of rectum . . . . .	6
“ of stomach . . . . .	41
“ of throat . . . . .	1
“ of tongue . . . . .	7
“ of uterus . . . . .	43
Carbuncle . . . . .	7
Cholera infantum . . . . .	461
“ morbus . . . . .	30
Cellulitis (location not stated) . . . . .	1
“ of arm . . . . .	1

Cellulitis of leg . . . . .	1
“ of pelvis . . . . .	5
Cirrhosis (not specified) . . . . .	4
“ of liver . . . . .	32
Convulsions . . . . .	103
Croup . . . . .	125
Cystitis . . . . .	17
“ with vesical calculus . . . . .	1
Cyanosis . . . . .	49
Debility . . . . .	80
Diabetes . . . . .	10
“ mellitus . . . . .	4
Diarrhœa . . . . .	170
Diphtheria . . . . .	334
Dysentery . . . . .	62
Embolism (not specified) . . . . .	4
“ of brain . . . . .	10
“ of heart . . . . .	3
“ of lungs . . . . .	4
Emphysema . . . . .	6
Empyema . . . . .	7
Enteritis . . . . .	62
Entero-Colitis . . . . .	28
Epilepsy . . . . .	11
Erysipelas . . . . .	40
Exposure . . . . .	4
Fever, intermittent . . . . .	3
“ puerperal . . . . .	20
“ scarlet . . . . .	156
“ typhoid . . . . .	152
Gangrene . . . . .	13
Gastro-enteritis . . . . .	49
Glanders . . . . .	1
Hæmorrhage . . . . .	17
Heart disease (not classified) . . . . .	397
“ clot . . . . .	1
“ embolism . . . . .	3
“ dilatation . . . . .	5

Heart endocarditis . . . . .	15
“ fatty degeneration . . . . .	14
“ hypertrophy . . . . .	12
“ malformation . . . . .	5
“ pericarditis . . . . .	9
“ valvular . . . . .	102
Heat stroke . . . . .	1
Hernia, congenital . . . . .	1
“ (inguinal) . . . . .	1
“ strangulated . . . . .	15
Hip-disease . . . . .	3
Hydrocephalus and tubercular meningitis . . . . .	207
Homicide . . . . .	9
Inanition . . . . .	67
Infanticide . . . . .	1
Insanity . . . . .	18
“ general paralysis . . . . .	2
Jaundice . . . . .	5
Kidney diseases (not specified) . . . . .	6
“ abscess of . . . . .	4
“ Bright's disease of . . . . .	187
“ cancer of . . . . .	3
Laryngitis . . . . .	17
Leucocythæmia . . . . .	6
Liver disease (not specified) . . . . .	34
“ abscess of . . . . .	2
“ cancer of . . . . .	32
“ cirrhosis of . . . . .	32
“ enlargement of . . . . .	2
“ inflammation of . . . . .	5
Locomotor ataxia . . . . .	4
Lung diseases — atelectasis pulm. . . . .	16
“ cancer of . . . . .	1
“ congestion . . . . .	22
“ œdema . . . . .	6
“ consumption . . . . .	1,523
“ embolism . . . . .	4
“ gangrene of . . . . .	4



Lung inflammation . . . . .	963
Malformation (not specified) . . . . .	5
"    of heart . . . . .	5
Measles . . . . .	84
Meningitis . . . . .	286
"    cerebro-spinal . . . . .	19
Obstruction of bowels . . . . .	20
Old age . . . . .	268
Ovarian cancer . . . . .	2
"    tumor . . . . .	7
Paralysis . . . . .	64
Prostate gland, disease of . . . . .	4
"    hypertrophy . . . . .	3
Peritonitis (non-puerperal) . . . . .	93
Pleurisy . . . . .	29
Pneumonia . . . . .	935
"    Broncho . . . . .	21
"    Pleuro . . . . .	7
Poisoning, accidental . . . . .	4
Premature birth . . . . .	149
Puerperal diseases, not including puerperal fever . . . . .	46
Purpura hæmorrhagica . . . . .	2
Pyæmia . . . . .	11
Rheumatism . . . . .	39
Scrofula . . . . .	17
Septicæmia . . . . .	31
Small-pox . . . . .	2
Softening of brain . . . . .	24
Sarcoma . . . . .	6
Spinal disease (unclassified) . . . . .	11
"    disease, Pott's . . . . .	7
"    inflammation . . . . .	13
Spina bifida . . . . .	6
Strangulation of bowels . . . . .	3
Stomach, inflammation of . . . . .	26
"    ulceration of . . . . .	9
Suffocation . . . . .	9
Suicide . . . . .	41

Sunstroke	7
Surgical operation (death following)	13
Syphilis	10
" congenital	21
Tabes-mesenterica and marasmus	302
Teething	18
Tetanus	3
" following pistol-shot wound	1
Tonsillitis	5
Tuberculosis	54
Tumor (not located)	1
" of abdomen	9
" " brain	6
" " ovary	7
" " uterus	3
Uterine disease, cancer	43
" inflammation	1
" tumor	3
Umbilical hæmorrhage	6

## CONTAGIOUS DISEASES.

The number of cases of contagious diseases reported to the Board of Health during the year 1885 was 5,386, against 4,939 in 1884. The number of deaths from the same diseases for 1885 was 729, or 56 less than in 1884.

With ample hospital accommodations, in which we could isolate the most of the cases, the mortality from these diseases could be very largely reduced.

The following tables show the number of deaths from scarlet fever, diphtheria, measles, small-pox, and typhoid fever, for the last thirteen years : —

## SCARLATINA.

1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
474	269	534	458	104	68	149	33	35	75	211	209	156

## DIPHTHERIA.

1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
59	72	420	577	364	448	391	588	601	458	445	345	334

## MEASLES.

1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
16	41	65	2	2	145	2	49	108	25	152	13	84

## SMALL-POX.

1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
302	2	1	2	4	0	0	1	6	8	1	1	2

## TYPHOID FEVER.

1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.
243	202	227	145	156	120	119	154	207	212	198	216	152

## SMALL-POX.

This disease has been, and still is, one which produces great terror wherever it breaks out, but which in fact, as it is now handled in this country, causes a less number of deaths than almost any other of the contagious diseases.

The nearness of the city of Montreal, with its recent and severe epidemic of small-pox, and continuous communication with our city, made it seem more than probable that the disease would find frequent entrance here; but the vigilant inspection of all persons in our quarantine, the most timely and useful inspection service instituted and maintained along the whole border-line between Canada and the United States by the Marine Hospital Service, and the additional inspection service maintained by the New Hampshire Board of Health, have served well in keeping the disease out of this city, and out of the United States.

Great credit is due to Dr. Hamilton, Surgeon-General, and Dr. Austin, Surgeon of the U.S. Marine Hospital Service, for the systematic and effectual plan and execution of this inspection service on the part of our general government at Washington. We are also indebted to Drs. Conn and Watson, of the New Hampshire Board of Health, for like plans and work performed on the railroads of that State which run between the infected city and our own. Only 12 cases have occurred in the city during the year 1885.

## CHOLERA. .

The danger of an introduction of cholera into this country last year, while it prevailed to a great extent in other countries, particularly in France and Spain, was the exciting cause of a general and almost unprecedented activity with health boards throughout this country. The alarm felt was not confined to health authorities, but prevailed to a great extent among all classes of our people. The result of this fear was that larger appropriations of money were quite universally made in cities and towns throughout the country; the people became more tractable, and willing to respond to the demands for cleanliness and new innovations for sanitary reform, and thus more work with less opposition was accomplished last year than in any year in the history of sanitary work.

The fact that cholera did not come should not be allowed to detract one particle from the value of the work done during the past year. It is not alone cholera that is invited and nourished by uncleanness or defied by good drainage and sanitary reform. Neither is cholera among the diseases which most effect our mortality tables in this country.

There are many diseases in our city which are more to be feared than cholera, and quite as amenable to sanitary control. It is only fair to assume that the large reduction in the number of deaths from zymotic or preventable causes during the last half of the year, was, in part, due to the greatly improved sanitary condition of the city.

It is believed that no case of cholera reached the American shore during the past season, and the only vessel supposed to be infected by cholera arrived at Salem, Mass., March 29, having had two deaths from cholera on board after leaving Chitagong, India, in November, 1883. The vessel was brought to our quarantine, dealt with, and no trouble followed.

Cholera is very much less feared now than formerly, owing to a better knowledge of its causation and sanitary care, and also the greater facilities for dealing with it. We hope to

maintain during the coming season even a higher standard of cleanliness, if possible, than was obtained last year, and continue the several sanitary reforms which are now well in progress.

Should cholera find its way into our city there is every reason to believe that its spread could be successfully resisted.

#### GLANDERS.

In 1877 the Board of Health made and published a regulation according to law forbidding the bringing into or keeping within the city any horse or other animal having a disease known as glanders, and requiring the owner, agent, or other person having charge of such animal, and also veterinary surgeons who are called to see such animal, to report the case to the Board of Health forthwith.

Since this regulation has been in force thirty-seven horses have been reported to the Board as having glanders or as being under suspicion.

Thirty of these cases have been found, upon the examination of the expert sent by the Board to examine the animals, to be suffering from this disease.

The animals found to be so diseased have been disposed of under direction of the Board of Health.

Last summer a case was reported in a horse in a large stable in Charlestown, but before the case could be attended to the horse was taken away, and could not afterward be found.

In this case a man had been taking care of the horse, and, not knowing the nature and danger of the disease when communicated to man, was accustomed to pick the scabs from the horse's nose and wash away the discharges. This occurred in the early part of the summer. He was taken sick August 9th, and on the 11th was admitted to the City Hospital, and died of glanders on the 26th of the same month, after passing through the different stages of a painful and incurable disease.

This case is reported in full in the Boston "Medical and

Surgical Journal" of November 12, by Dr. Robert W. Lovett, and occurred in the service of Dr. E. H. Bradford.

It is referred to here to show one of the reasons why the regulation was made and the importance of having it rigidly enforced. The disease is not only incurable in man, but is always fatal in the horse.

#### NUISANCES ABATED.

House drains repaired . . . . .	4,238
Vaults cleaned and repaired . . . . .	3,958
Traps supplied . . . . .	1,297
Yards cleaned . . . . .	1,001
Stagnant water removed from vacant lots . . . . .	274
Water-closets repaired . . . . .	1,230
Cellars cleaned . . . . .	1,053
Cesspools cleaned . . . . .	424
Privies repaired . . . . .	245
Vacant lots cleaned . . . . .	199
Fowls removed . . . . .	151
General want of cleanliness of premises . . . . .	293
Receptacles provided for garbage . . . . .	113
Passage-ways cleaned . . . . .	238
Stables put in order . . . . .	142
Swine removed . . . . .	72
Sundry nuisances . . . . .	282
Manure removed . . . . .	216
Roofs repaired . . . . .	9
Sheds cleaned . . . . .	62
Tenements whitewashed . . . . .	409
Rags removed . . . . .	5
Cows removed . . . . .	11

The owners of property in which nuisances were found to exist have generally been prompt in complying with the orders of the Board, although in some instances extreme measures have had to be resorted to in order to secure a proper sanitary condition of places complained of. The

number of houses ordered to be vacated during the year was 160, of which number only 15 were actually vacated. The other houses having been put in proper condition before the expiration of the time specified in the notice, the tenants were allowed to remain.

#### SEWERAGE.

The second year of the use of the great intercepting system of sewers in our city has passed with increasing confidence and satisfaction of the people in its ability to do the work for which it was built, and in the great relief it has brought to the inhabitants of the city. It is not yet taxed to its full capacity, and we have to repeat here in substance what we urged in our last annual report, that there are still outlying portions of the city which are in great need of sewers and which ought to be supplied without further delay.

The Board of Health is often appealed to by petition and otherwise for the relief of these undrained and unsewered districts, and the Board has, from time to time, communicated these appeals to the City Council, with an urgent request that the sewers be built.

This Board began its appeals seven years ago, for the completion of the metropolitan system of sewers by which Cambridge, Somerville, Charlestown, East Boston, Chelsea, and other cities and towns along the Charles and Mystic rivers might be properly provided.

Several attempts have been made through the action of the Legislature to accomplish this work, and several surveys have been made by which it is known that the scheme is altogether practicable.

It is understood that a new plan is to be reported to the present Legislature by a commission appointed by the governor nearly two years ago.

The engineering work has been done by Mr. Eliot C. Clarke, and will undoubtedly possess the usual high order of merit which belongs to his work.

### DISPOSITION OF WASTE MATERIAL.

The question of what can best be done with the waste substances in our large cities is one that constantly engages the attention of sanitary officers. This material has been disposed of in a variety of ways in the cities of this country, but the most common methods are to bury it, making streets or filling up low lands and dumping it into rivers, lakes, or harbors of the sea.

In many parts of Europe, and particularly in England, the process of burning has been adopted, and with some degree of success. This is undoubtedly the best method from a strict sanitary point of view, for it consumes everything of a combustible nature, and probably destroys everything in the way of germ life.

One of the greatest difficulties in handling this material arises from the habit of the people of mixing substances which require treatment with those which do not require it. Taking the material as we find it, and in the absence of any better and practicable method for its destruction, we have advised and instituted a process of dumping it at the beginning of ebb tide in the harbor beyond Boston Light.

### DISINFECTION.

The work performed by this branch of our department, and the effect produced in preventing decomposition, putrefaction, and the attendant noisome odors which arise from privy-vaults, cesspools, and other filthy places, has undoubtedly been greater during the past year than for any other year in the history of the department.

And were it alone for the purpose of preventing putrefaction in these places of filth and bad odors the work and money would be worthily expended; but the fact that in these places the actual disease germs so frequently find lodgment and the most favorable conditions for their growth and multiplication shows not only the great advantage but the actual necessity of attacking these places with the most powerful antiseptics and germicides, if we would prevent



many of our contagious diseases. The second year in the use of the bichloride of mercury as an antiseptic and disinfectant has convinced us that we have in this substance the cheapest and most efficient means that we have ever used.

The following table shows the number of places disinfected for the year ending Dec. 31, 1885 :—

On account of diphtheria	.	.	.	.	.	468
“ scarlet fever	.	.	.	.	.	298
“ typhoid fever	.	.	.	.	.	26
“ measles	.	.	.	.	.	23
“ school-houses	.	.	.	.	.	23
Pullman car	.	.	.	.	.	1
Infected clothing	.	.	.	.	lot	1
Egyptian rags	.	.	.	.	“	1
						<hr/>
Total	.	.	.	.	.	841
Total number of rooms disinfected	.	.	.	.	.	3,503

The following table shows the increase in the work of disinfection from 1881 to the present time :—

	Places.	Rooms.
1881 . . . . .	408	1,385
1882 . . . . .	411	1,655
1883 . . . . .	658	3,019
1884 . . . . .	725	3,050
1885 . . . . .	841	3,503
		<hr/>
Total . . . . .	3,043	12,612

The number of places disinfected during the year 1885 is as follows, it being understood, of course, that many places were disinfected many times, and count correspondingly in the table :—

Streets . . .	179	Water-closets . .	2,102
Places . . .	776	Passage-ways . .	2,781
Courts . . .	388	Urinals . . .	747
Alleys . . .	2,519	Vacant lots . . .	491
Yards . . .	12,767	Filthy sheds . . .	3,018
Vaults . . .	27,214	Filthy rooms . . .	274
Cellars . . .	3,356	Sinks . . .	3,352
Cesspools . . .	13,331		
Gutters . . .	3,320	Total . . .	76,615

Disinfectants used : 1,550 pounds corrosive sublimate, 69 casks of chloride of lime, 25 barrels of copperas, 11 barrels of Lerner's disinfecting powder, and 2 barrels of solution of zinc.

The experimental evidence obtained by the Committee on Disinfectants of the American Public Health Association demonstrates that the best agents for the destruction of spore containing infectious materials are as follows : —

1. Fire. Complete destruction by burning.
2. Steam under pressure. 110° C. (230° Fahr.) for ten minutes.
3. Boiling in water for one hour.<sup>1</sup>
4. Chloride of lime.<sup>2</sup> A 4 per cent. solution.
5. Mercuric chloride. A solution of 1 : 500.

For the destruction of infectious material which owes its infecting power to the presence of micro-organisms not containing spores, the committee recommend :

1. Fire. Complete destruction by burning.
2. Boiling in water half an hour.
3. Dry heat. 110° C. (230° Fahr.) for two hours.
4. Chloride of lime.<sup>3</sup> 1 to 4 per cent. solution.

<sup>1</sup>This temperature does not destroy the spores of *B. subtilis* in the time mentioned, but is effective for the destruction of the spores of the anthrax bacillus and of all known pathogenic organisms.

<sup>2</sup>Should contain at least 25 per cent. of available chlorine.

<sup>3</sup>Should contain at least 3 per cent. of available chlorine.

5. Solution of chlorinated soda.<sup>1</sup> 5 to 20 per cent. solution.
6. Mercuric chloride. A solution of 1 : 1000 to 1 : 4000.
7. Sulphur dioxide. Exposure for 12 hours to an atmosphere containing at least 4 volumes per cent. of this gas, preferably in presence of moisture.<sup>2</sup>
8. Carbolic acid. 2 to 5 per cent. solution.
9. Sulphate of copper. 2 to 5 per cent. solution.
10. Chloride of zinc. 4 to 10 per cent. solution.

The committee make the following recommendations with reference to the practical application of these agents for disinfecting purposes : —

*For Excreta.*

(a) In the sick room :

For spore-containing material —

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1 : to 500.<sup>3</sup>

In the absence of spores —

3. Carbolic acid in solution, 5 per cent.
4. Sulphate of copper in solution, 5 per cent.
5. Chloride of zinc in solution, 10 per cent.

(b) In privy-vaults :

Mercuric chloride in solution, 1 : 500.<sup>4</sup>

(c) For the disinfection and deodorization of the surface of masses of organic material in privy vaults, etc. :

Chloride of lime in powder.<sup>5</sup>

<sup>1</sup> This will require the combustion of between three and four pounds of sulphur for every 1,000 cubic feet of air-space.

<sup>2</sup> The addition of an equal quantity of potassium permanganate as a deodorant, and to give color to the solution, is to be recommended (*Standard Solution No. 2*).

<sup>3</sup> A concentrated solution containing four ounces of mercuric chloride and one pound of cupric sulphate to the gallon of water, is recommended as *Standard Solution No. 3*. Eight ounces of this solution to the gallon of water will give a dilute solution for the disinfection of excreta, containing about 1 : 500 of mercuric chloride, and 1 : 125 of cupric sulphate.

<sup>4</sup> For this purpose the chloride of lime may be diluted with plaster of Paris, or with clean, well-dried sand, in the proportion of one part to nine.

<sup>5</sup> The blue solution, containing sulphate of copper diluted by adding two ounces of the concentrated solution to a gallon of water, may be used for this purpose.

*For Clothing, Bedding, etc.**(a) Soiled underclothing, bed linen, etc. :*

1. Destruction by fire, if of little value.
2. Boiling for at least half an hour.
3. Immersion in a solution of mercuric chloride of the strength of 1 : 2000 for four hours.
4. Immersion in a 2 per cent. solution of carbolic acid for four hours.

*(b) Outer garments of wool or silk, and similar articles, which would be injured by immersion in boiling water or in a disinfecting solution :*

1. Exposure to dry heat at a temperature of 110° C. (230° F.) for two hours.
2. Fumigation with sulphurous acid gas for at least twelve hours, the clothing being freely exposed, and the gas present in the disinfection chamber in the proportion of four volumes per cent.

*(c) Mattresses and blankets soiled by the discharges of the sick.*

1. Destruction by fire.
2. Exposure to superheated steam — 25 pounds' pressure — for one hour. (Mattresses to have the cover removed or freely opened.)
3. Immersion in boiling water for one hour.
4. Immersion in the blue solution (mercuric chloride and sulphate of copper), two fluid ounces to the gallon of water.

*For Furniture and Articles of Wood, Leather, and Porcelain.<sup>1</sup>*

Washing, several times repeated, with : —

1. Solution of mercuric chloride: 1 : 1000. (The blue solution, four ounces to the gallon of water, may be used.)
2. Solution of chloride of lime, 1 per cent.
3. Solution of carbolic acid, 2 per cent.

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<sup>1</sup> For articles of metal, use Solution No. 3.

*For the Person.*

The hands and general surface of the body of attendants, of the sick, and of convalescents at the time of their discharge from hospital:—

1. Solution of chlorinated soda diluted with nine parts of water (1 : 10).
2. Carbolic acid, 2 per cent. solution.
3. Mercuric chloride, 1 : 1000; recommended only for the hands, or for washing away infectious material from a limited area, not as a bath for the entire surface of the body.

*For the Dead.*

Envelop the body in a sheet thoroughly saturated with:—

1. Chloride of lime in solution, 4 per cent.
2. Mercuric chloride in solution, 1 : 500.
3. Carbolic acid in solution, 5 per cent.

*For the Sick Room and Hospital Wards.*

(a) While occupied, wash all surfaces with:—

1. Mercuric chloride in solution, 1 : 1000 (the blue solution; containing sulphate of copper, may be used).
2. Chloride of lime in solution, 1 per cent.
3. Carbolic acid in solution, 2 per cent.

(b) When vacated:—

Fumigate with sulphur dioxide for 12 hours, burning 3 pounds of sulphur for every 1,000 cubic feet of air-space in the room; then wash all surfaces with one of the above-mentioned disinfecting solutions, and afterwards with soap and hot water; finally, throw open doors and windows and ventilate freely.

*For Merchandise and the Mails.<sup>1</sup>*

The disinfection of merchandise and of the mails will only be required under exceptional circumstances; free aëration

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<sup>1</sup>In order to secure penetration of the envelope by the sulphur dioxide, all mail matter should be perforated by a cutting stamp before fumigating.

will usually be sufficient. If disinfection seems necessary, fumigation with sulphur dioxide, as recommended for woollen clothing, etc., will be the only practicable method of accomplishing it.

*For Rags.*

(a) Rags which have been used for wiping away infectious discharges should at once be burned.

(b) Rags collected for paper-makers during the prevalence of an epidemic should be disinfected before they are compressed in bales by :

1. Exposure to superheated steam (25 pounds' pressure) for ten minutes.

2. Immersion in boiling water for half an hour.

(c) Rags in bales can only be disinfected by injecting superheated steam (50 pounds' pressure) into the interior of the bale. The apparatus used must insure the penetration of the steam to every portion of the bale.

*For Ships.*

(a) Infected ships at sea should be washed in every accessible place, and especially the localities occupied by the sick, with :

1. Solution of mercuric chloride, 1 : 100 (the blue solution heretofore recommended may be used.)

2. Solution of chloride of lime, 1 per cent.

3. Solution of carbolic acid, 2 per cent.

The bilge should be disinfected by the *liberal* use of a strong solution of mercuric chloride (the concentrated solution — "blue solution" — of this salt with cupric sulphate may be used).

(b) Upon arrival at a quarantine station an infected ship should at once be fumigated with sulphurous acid gas, using three pounds of sulphur to every 1,000 cubic feet of air space; the cargo should then be discharged on lighters; a liberal supply of the concentrated solution of mercuric

chloride (4 ounces to the gallon) should be thrown into the bilge, and at the end of twenty-four hours the bilge-water should be pumped out and replaced with *pure* seawater; this should be repeated. A second fumigation after the removal of the cargo is to be recommended; all accessible surfaces should be washed with one of the disinfecting solutions heretofore recommended, and subsequently with soap and hot water.

## WELL-WATERS.

The wells in use within the city have been looked to, and wherever any suspicion of pollution has attached to them, the waters have been submitted to chemical examination, and, if found to be unfit for domestic uses, the owners have been ordered to fill up the wells.

The following are some of the analyses made by Professor Wood : —



## Analyses of Well-Waters.

## Figures express parts

LOCATION.	Date of Analysis.	Whence taken.	AMMONIA.		Chlorine.	RESIDUE.		
			Free.	Albu- minoid.		Fixed.	Volatile.	Total.
502 Bennington st., East Boston . . . .	1885. Mar. 14	Well.	0.1886	0.1076	13.60	42.00	43.20	85.20
508 " " " " . . . .	" 14	"	0.0170	0.0404	24.50	73.80	60.50	134.30
" " " " . . . .	" 14	"	0.0376	0.0182	8.20	15.40	32.00	47.40
521 " " " " . . . .	" 14	"	0.0010	0.0196	20.10	44.70	28.80	73.50
54 " " " " . . . .	April 10	"	0.0024	0.0036	6.40	18.40	28.70	47.10
2 Lubec st., East Boston . . . . .	" 10	"	0.0006	0.0112	8.00	33.60	21.50	55.10
579 Bennington st., East Boston . . . .	" 10	"	0.0006	0.0080	9.40	41.70	67.50	109.20
Moore st., first house left from Milton st., East Boston . . . . .	" 10	"	0.0252	0.0530	7.90	14.20	28.90	43.10
Moore st., first house right from Milton st., East Boston . . . . .	" 10	"	0.0004	0.0064	7.00	18.70	30.20	48.90
1 Lubec st., East Boston . . . . .	" 10	"	0.0008	0.0112	7.70	20.60	23.60	44.20
510 Bennington st., East Boston . . . .	" 10	"	0.0024	0.0062	5.60	18.20	16.00	34.20
544 " " " " . . . .	" 10	"	0.0068	0.0040	5.40	15.60	27.70	48.60
560 " " " " . . . .	" 10	"	0.0026	0.0052	7.60	17.30	26.90	44.20
352 " " " " . . . .	" 10	"	0.0014	0.0072	6.70	21.80	44.90	66.70
Commercial st., near Pleasant, Dor- chester . . . . .	" 10	Spring.	0.0030	0.2510	7.10	19.70	41.40	61.10
Frankfort st., last house left from Swift st., East Boston . . . . .	" 10	Well.	0.0244	0.0426	21.40	31.10	32.10	69.20
550 Bennington st., East Boston . . . .	" 10	"	0.0082	0.0162	6.20	22.10	13.60	35.70
1 Homer st., East Boston . . . . .	May 2	"	0.4370	0.0352	9.10	28.50	31.00	59.50
Sheridan st., 3d house left from Minot st., Dorchester . . . . .	July 7	"	0.0068	0.0060	3.30	12.10	10.70	22.80
23 Adams st., Roxbury . . . . .	" 29	"	0.0116	0.0150	5.60	31.70	24.30	56.00
126 Keyes st., West Roxbury . . . . .	Sept. 4	"	0.0144	0.0108	2.50	10.40	11.90	22.30
3 and 5 Minot st. . . . .	" 28	"	0.0008	0.0150	10.40	39.00	50.60	89.60
3 and 5 Minot pl. . . . .	" 28	Cistern.	0.0004	0.0264	0.90	3.80	4.70	8.50
72 Dale st. . . . .	Oct. 6	Well.	0.1432	0.0152	2.80	13.40	26.60	40.00
No. 1. Near Highland Lake . . . . .	Nov. 25	"	0.0056	0.0020	0.60	4.90	2.70	7.60
No. 2. " " " . . . . .	" 25	"	0.0094	0.0012	0.50	4.40	1.70	6.10
No. 3. " " " . . . . .	" 25	"	0.0056	0.0026	0.60	4.10	2.50	6.63
No. 10. " " " . . . . .	" 25	Pond.	0.0066	0.0324	0.40	3.20	5.90	9.10
Walnutave., near West Roxbury park .	" 30	Well.	0.0180	0.0168	2.30	15.60	9.10	24.70

per 100,000 of water.

Analyses of Well-Waters.

Hardness.	Transparency.	Color.	Odor.	Characteristics on Ignition.	Nitrates.	REMARKS.
..	Clear.	Yellowish.	Bad.	Much blackening.	Trace.	A very bad water; unfit for use.
..	"	"	"	" "	"	" " " " " "
..	"	Slight.	Slight.	Considerable blackening.	"	Highly contaminated; unfit for domestic use.
..	"	"	"	Much blackening.	"	A bad water; unfit for domestic use.
..	"	None.	None.	Very slight blackening.	Absent.	No evidence of present injurious contamination.
..	"	"	"	Considerable blackening.	Trace.	Slightly suspicious.
..	"	"	"	" "	"	Very suspicious.
..	"	"	"	" "	"	Unfit for domestic use.
..	"	"	"	Slight blackening.	"	No evidence of present injurious contamination; slight suspicion of future purity.
..	"	"	"	Considerable blackening.	"	No evidence of present injurious contamination. Suspicious.
..	"	"	"	Slight blackening.	"	No evidence of present injurious contamination; suspicion of future purity.
..	"	"	"	Very slight blackening.	Slight trace.	Suspicious of future purity.
..	"	"	"	Slight blackening.	Trace.	" " "
..	"	"	"	" "	"	Suspicious.
..	Turbid.	Yellow.	Foul.	Much blackening.	Absent.	A very bad water; unfit for domestic use.
..	Clear.	None.	None.	Considerable blackening.	Trace.	" " " "
..	"	"	"	" "	Absent.	Unfit for domestic use.
..	Milky turb'ity.	"	Very slight.	" "	Trace.	A very bad water; unfit for domestic use.
10	Clear.	"	None.	Slight blackening.	.. . .	No evidence of injurious contamination.
140	"	"	Slight.	" "	Trace.	Contaminated, and unfit for domestic use.
730	"	"	None.	" "	Absent.	Contaminated; cannot be recommended for domestic use.
250	"	"	"	" "	"	Very suspicious; cannot be recommended for domestic use.
30	"	"	"	Much blackening.	"	Very dirty water.
80	"	"	"	Considerable blackening.	"	Slightly contaminated; unfit for domestic use.
20	"	"	"	Slight blackening.	"	Good water.
20	"	"	"	" "	"	" "
20	"	"	"	" "	"	" "
140	"	Yellowish brown.	"	Much blackening.	"	A dirty water; contamination due probably to vegetable matter.
40	"	Slightly brownish color.	"	Slight blackening.	"	Polluted, and cannot be recommended for domestic use.

## The following are Reports on Well-

LOCATION.	Date of Analysis.	Whence taken.	AMMONIA.		Chlorine.	RESIDUUM.		
			Free.	Albuminoid.		Fixed.	Volatile.	Total.
No. 1. West Roxbury Park . . . . .	1885. Oct. 6	Well.	0.0016	0.0078	3.60	17.40	19.10	36.50
" 2. " . . . . .	"	"	0.0046	0.0052	1.50	5.20	5.50	10.70
" 3. " . . . . .	"	"	0.0204	0.0072	1.50	5.90	5.50	11.40
" 4. " . . . . .	"	"	0.0024	0.0062	1.40	7.20	5.60	12.80
" 5. " . . . . .	"	Spring.	0.0004	0.0006	1.00	5.90	5.10	11.00
" 6. " . . . . .	"	"	0.0006	0.0424	0.90	9.10	5.70	14.80
" 7. " . . . . .	"	Well.	0.0246	0.0048	3.90	14.90	23.20	43.10
" 8. West Roxbury Park, near Williams street . . . . .	"	Spring.	0.0046	0.0030	1.30	10.30	8.10	18.40
" 9. Foster's Estate, West Roxbury	"	Well.	0.0102	0.0158	4.80	20.40	21.20	41.00
" 10. Greenhouse, " . . . . .	"	"	0.0420	0.0032	0.70	6.60	4.90	11.50
" 11. Proctor's Estate, Morton street .	"	"	0.4840	0.3200	12.90	66.70	54.20	120.90
" 12. Townsend Estate, Martin st. .	"	"	0.0026	0.0078	2.10	9.10	15.20	24.30
" 13. Walnut st., near Forest Hills st.,	"	"	0.0002	0.0280	5.90	29.80	8.90	37.20
" 14. Williams Estate, 1 Walnut st. .	"	"	0.0096	0.0058	2.70	11.10	12.10	23.20
" 15. Ellicott Estate, Walnut st. . .	"	"	0.0004	0.0034	0.70	5.50	4.20	9.70
" 16. McMorrow House, near Forest Hills st. . . . .	"	"	0.0086	0.0048	6.50	10.40	14.40	24.70
" 17. Williams Estate, between Glen road and Williams st. . . . .	"	"	0.0096	0.0132	0.90	6.80	3.50	10.80
" 18. Williams house, Williams Estate	"	"	0.0420	0.0202	3.30	17.60	4.80	22.40
" 20. Snyder House, Walnut st. . .	"	"	0.0004	0.0028	0.09	6.40	2.20	8.60
Rear McMorrow House, West Roxbury Park . . . . .	"	Cistern.	0.0024	0.0066	0.20	2.50	1.90	4.40
At the Williams House . . . . .	"	"	0.0160	0.0082	0.20	2.70	1.90	4.00

## Waters in the West Roxbury Park.

Hardness.	Transparency.	Color.	Odor.	Characteristics on Ignition.	Nitrates.	REMARKS.
10	Clear.	None.	None.	Slight blackening.	Trace.	No contamination, but slight suspicion as to its future purity.
8	"	"	"	" "	. . . .	A very good water.
4	Turbid.	"	"	Very slight blackening.	. . . .	Very suspicious.
4	Clear.	"	"	Slight blackening.	. . . .	A very good water.
3½	"	"	"	" "	. . . .	An excellent water.
6	"	"	"	" "	. . . .	A very good water.
10	"	"	"	Considerable blackening.	Trace.	Highly contaminated; unfit for domestic use.
8	"	"	"	Slight blackening.	. . . .	A very good water.
14	Turbid.	Slight	"	Considerable blackening.	. . . .	Contaminated; unfit for domestic use.
4	Clear.	None.	"	" "	. . . .	An excellent water.
40	Turbid.	Slightly Yellow.	"	Much blackening.	. . . .	Very highly contaminated; unfit for domestic use; resembles a sewer water.
6	Clear.	None.	"	. . . . .	. . . .	A good water.
17	"	"	"	Much blackening.	. . . .	Contaminated; unfit for domestic use.
8	"	"	"	Slight blackening.	. . . .	A suspicious water.
3	"	"	"	" "	. . . .	An excellent water.
7	"	"	"	" "	. . . .	Very suspicious.
4	"	"	"	" "	. . . .	A good water.
14	"	"	"	Considerable blackening.	Trace.	Highly contaminated; unfit for domestic use.
4	"	"	"	Slight blackening.	. . . .	An excellent water.
1½	"	"	"	" "	. . . .	Good.
1	"	"	"	" "	. . . .	Good.

### WATER SUPPLY.

There has been less complaint of the quality of our drinking-water during the last year than for many years previous, and, so far as the taste and appearance are concerned, they have both been improved.

We are glad to state that the chemical examinations also show an improvement in the purity of the water.

### QUARANTINE.

Increased activity and vigilance were instituted early in the season, and have been maintained in our quarantine throughout the year on account of an increased danger from the unusual prevalence of infectious and epidemic diseases in foreign countries.

Cholera in Europe and small-pox in Montreal raged with unusual virulence. Communication between these places and our own was frequent and uninterrupted, and made it more than probable that these diseases would be imported.

All cargoes, baggage, and persons have been treated with more than ordinary care and scrutiny, and it is believed that no cholera-infected person or cargo has passed the quarantine during the season. One man, the captain of a vessel from St. John, N.B., arrived at Chelsea the first of September, and broke out with small-pox three days later. He was received at once into our quarantine, his visits in the city traced, and all persons who had been exposed by him were vaccinated and watched. The disease did not extend to any other person.

Special inspection and quarantine was ordered for all vessels arriving in this port from the Dominion of Canada and Newfoundland, and all persons vaccinated or revaccinated who did not show satisfactory evidence that they had very recently been so treated.

It was found that more than half of the crews on vessels sailing between the Provinces and this port were in need of vaccination, and would have taken small-pox by an exposure.

The need for this extra inspection against the Provinces has so far decreased that it will soon be removed.

The quarantine steamer having become old, and needing extensive repairs, together with the fact that the new and improved facilities for disinfection cannot be obtained with the present boat, it was thought best to ask for a new and more useful one. We therefore sent the following communication to the City Council:—

OCTOBER 12, 1885.

*To the Honorable City Council:—*

The Board of Health respectfully represents that extensive repairs have become necessary to put the quarantine steamer in a safe and good condition for her uses, and that the Board has carefully considered the advisability of selling the old boat, to be put to other uses, and building a new one for quarantine services. The Board has concluded that it would be the better economy to build a new boat, and therefore respectfully ask for authority to sell the steamer "Samuel Little," and to build another, the expense thereof not to exceed eighteen thousand dollars (\$18,000). The Board would suggest that if the proceeds from the sale of the old boat could be applied to the purchase of the new one, the balance required for the latter could be taken from the appropriation for the Board of Health.

Respectfully submitted,

For the Board of Health,

S. H. DURGIN,  
*Chairman.*

CITY OF BOSTON,

IN BOARD OF ALDERMEN, November 30, 1885.

*Ordered,* That the Board of Health be and is hereby authorized to execute a contract for a new steamer for the quarantine service, at an expense not exceeding \$18,000, and to sell the quarantine steamer "Samuel Little," and apply the proceeds in part payment for said new boat, the balance of the cost of said new boat to be charged to the appropriation of the Board of Health.

Passed in Common Council, November 24. Came up for concurrence. Concurred.

Approved by the Mayor, December 3, 1885.

A true copy.

Attest:

(Signed)

AUG. N. SAMPSON,  
*City Clerk.*

## DORCHESTER SEWAGE.

The lack of adequate and proper sewerage in the Dorchester District has been the subject of much complaint from residents there during the past year. The development of this district during the past few years has been rapid, and the building of public sewers has not kept pace with the need of them. Public sewers for such rapidly growing districts as this are an absolute necessity on sanitary grounds, and the liberal appropriations made for this purpose during the past year will do much to improve the sanitary condition of the district.

The most serious nuisance caused by inadequate sewerage in the Dorchester District was that located on the flats, between Dorchester avenue and the Old Colony Railroad. The nuisance was caused by the flow of sewage upon these flats from the public sewers, and upon petition of a large number of the residents of the district, a hearing was given them by this Board in order to enable us to proceed under the Wet Land Act to abate the nuisance. It was found that the only proper method to pursue was to construct a sewer from Commercial street, near McNeil's factory, to Crescent avenue; a distance of about 6,000 feet. This, it was considered, would form a part of the intercepting system of sewers, and be in harmony with the general plan adopted for that district. Plans and estimates were procured by the City Engineer, and a request was addressed to the City Council asking for an appropriation of \$90,000 with which to prosecute the work. At the same time the wish was expressed that the City Council would relieve this department from resorting to this extraordinary procedure by authorizing the proper department to proceed with the work at once. This hope was at the last moment realized, and an appropriation was made enabling the Sewer Department to build the sewer, thus relieving the Board of Health of the necessity of undertaking a work which only an extraordinary condition of affairs should devolve on this Board. It is hoped and expected that the work on this sewer will be completed in season to abate the nuisance complained of before the coming summer.

## PRIVY VAULTS.

Under the provision of "An Act in Relation to the Preservation of Health in Buildings in the City of Boston," passed at the last season of the Legislature, it is provided that every building in the city used as a dwelling tenement, or lodging-house, or where persons are employed, and situated on a street in which there is a sewer, shall have water-closets, and shall not have a cesspool or privy connected with it, except where, in the opinion of the Board of Health, it can be allowed to remain for a longer time, and then only as said Board shall approve. Acting under the provisions of this act, the Board, early in the summer, began to order the abolition of offensive vaults, and the following table shows the number and locations of these nuisances which have been abolished during the year : —

Ward	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
"	19	79	31	48	26	22	10	60	40	9	6	40	61	29	79	28	18	3	40	56	14



Ward 22	.	.	.	.	.	.	.	.	21
" 23	.	.	.	.	.	.	.	.	2
" 24	.	.	.	.	.	.	.	.	43
Total vaults abolished during the year									<hr/> 783

In most instances water-closets have been substituted for vaults, except in some tenement-houses where the carelessness of the tenants made the substitution of water-closets undesirable. In such cases the Board decided that the flush vault might be accepted in lieu of a water-closet, provided it was so constructed as to admit of frequent flushing, allowing all the contents of the vaults to run freely to the sewer in the street. Experience with these vaults in connection with some of the public school-houses, and in a number of large tenement-houses, has been such as to warrant the expectation that they will prove entirely satisfactory, provided always that proper care is bestowed upon them. In some instances water-closets have been placed outside of houses, having automatic flushing apparatus, and provided with an attachment to allow the water to run out of the supply-pipes so as to prevent freezing. The advantage gained by the use of this outside closet is, that it saves the expense of supplying a ventilated soil-pipe in the house, the plumbing law having been amended so far as to allow this.

There are still a large number of privy-vaults existing in the city in violation of the new health law, and it is the intention of the Board of Health to have them abolished as fast as circumstances will permit.

The number of vaults cleaned during the year by the Odorless Excavating Company, who, by contract, have the exclusive right to empty all vaults within the limits of the city, at five dollars a load of eighty cubic feet, was 5,423.

#### WET LANDS.

In August last a petition signed by Richard Moore *et als.*, for the abatement of a nuisance caused by wet lands lying between Boylston street on the north, West Chester park on

the east, Westland avenue on the south, and the Back Bay park on the west, having been presented to this Board, a hearing was given in accordance with the provisions of the Wet Land act, and after due process a contract was made with B. C. Tinkham to construct a drain to carry the stagnant water into the Stony-brook conduit, in accordance with a plan prepared by the City Engineer. The contract price for doing the work was \$875, and it was completed to the satisfaction of this Board. The cost of the work will be assessed on the several owners of the land thus drained.

A large number of minor nuisances on wet lands have been abated during the year, and the expense of the work assessed upon the several owners of the property thus benefited.

#### CARE OF REFUSE MATERIAL.

In accordance with a recommendation of this Board, and with an order of the City Council giving this Board authority to purchase a Barney Dumping-boat at an expense not exceeding \$12,000, exclusive of the annual royalty for the use of the patents, a new boat, similar in all respects to the boat which had been rented by the city for a year past, was purchased of the Barney Dumping-boat Company, of New York, in December, and is now in service.

Following is the contract as entered into and signed by the City of Boston and the Barney Dumping-boat Company, respectively : —

THIS AGREEMENT, made this seventeenth day of December, in the year eighteen hundred and eighty-five, by and between the BARNEY DUMPING-BOAT COMPANY, a corporation established by and existing under the laws of the State of New Jersey, of the first part, and the CITY OF BOSTON, in the Commonwealth of Massachusetts, of the second part, WITNESSETH : —

*First.* For and in consideration of the payment of the several sums hereinafter mentioned, and of the agreements hereinafter contained by the second party to be performed, the said first party agrees to sell and deliver to said second party a new automatic Barney Dumping-boat, in all respects similar, and equal in design, pattern, and workmanship, to the boat now in possession and use of said second party, when new, and to permit said second party to use the same.

*Second.* The said second party hereby agrees to pay to said first party, as full payment for said boat, the sum of twelve thousand dollars on delivery of said boat to the Board of Health of said City, in Boston aforesaid, and also to pay one-half of the necessary expenses incurred for towing said boat from Noank, in the State of Connecticut, to Boston aforesaid.

*Third.* The said second party agrees to pay as royalty for the use of the inventions and patents used in the construction and proper use of said boat for the purposes for which it was designed, the sum of seven hundred and fifty dollars (\$750), in advance, for each six months during which said inventions and patents are used by said second party, the first payment to be made on the delivery of said boat as aforesaid, and the other payments to be made on the first day of each six-monthly period thereafter, during the life of said inventions and patents, as long as said second party shall use the same; *provided, however*, that if the said second party at any time desires to discontinue entirely, or for a definite period, not less than six months, the use of said inventions and patents, then the second party shall give one month's notice to the first party that the use of said inventions and patents will, at the end of six months, then already paid for, be discontinued entirely, or for such definite period, and no royalty shall be payable during such discontinuance.

*Fourth.* The said first party agrees to indemnify and save harmless forever the said City of Boston from and against any and all claims and demands for or on account of or in any way growing out of the use of any and all inventions and patents used in the construction and use of said boat.

(Signed) WM. TURNBULL,  
*President Barney Dumping-boat Co.*

[L.S.] (Signed) N. BARNEY, *Secretary.*

STATE OF NEW YORK, }  
COUNTY OF NEW YORK. }

On this seventeenth of December, in the year eighteen hundred and eighty-five, before me personally came William Turnbull, President, and Nathan Barney, Secretary, of the Barney Dumping-boat Company, of New York, to me known and known to be officers of the said Barney Dumping-boat Company as described, and who to me severally acknowledged that they executed the foregoing agreement in such official capacity.

[L.S.] (Signed) H. P. SANFORD,  
*Notary Public, Rockland Co.*

Certificate filed in New York County.

CITY OF BOSTON, By { SAMUEL H. DURGIN, }  
                                  { WM. TAYLOR, } *Board of Health.*  
                                  { GEO. F. BABBITT, }

Approved, Dec. 29, 1885.

[L.S.]

HUGH O'BRIEN, *Mayor.*

The purchase-money and the royalty were paid from the appropriation for the Health Department, in accordance with the terms of the order of the City Council.

The facilities provided by this boat for carrying all the more offensive refuse material out to sea are all that could be desired, and will enable this Board to enforce more rigidly the provisions of the law which forbid the dumping of offensive material on vacant lots and on flats within the limits of the city. The time is at hand when more than one of these boats could be advantageously used in different sections of the city, and it would no doubt be wise economy to do so.

#### THE PUBLIC BATHS.

No serious accident, either from drowning or other cause, occurred during the bathing season, showing the watchful care exercised by the keepers in charge of the various bathing-places.

The appropriation for bath-houses was \$16,000, a large portion of which sum was expended for wages of the men and women employed as superintendents at the various houses. The balance has been or will be used for making such repairs of the old houses as are found to be necessary. During the bathing season, from June 1 to October 1, twelve men and seven women were employed to superintend the bath-houses, and seven men as special police-officers. During the winter months the work of repairing the old houses and building a new floating-house, to take the place of an old one unfit for further use, have been in progress; but the work has been suspended until spring, when this work will be finished.

The bath-house for women and girls, at the foot of Fifth street, South Boston, is now located on the site of the proposed Marine park, and it will have to be moved to another location in the spring. It is also the intention of the Board to provide suitable bathing facilities in the West Roxbury and Brighton districts, in response to numerous requests from the citizens of those sections, provided a sufficient ap-

propriation is made for the purpose and proper locations can be found.

The public baths were well patronized during the bathing season. The following table shows the number of bathers at each of the bath-houses during the summer and the number the previous season : —

#### FOR MEN AND BOYS.

	1884.	1885.
West Boston Bridge, foot of Cambridge street . . . . .	79,542	59,623
Craigie's Bridge, foot of Leverett street . . . . .	87,212	70,646
Charles River Bridge, near Causeway street . . . . .	56,682	59,388
East Boston Sectional Dock, Border street, Mt. Washington avenue Bridge, near Federal street . . . . .	51,218	53,420
South Boston, foot of L street, Dorchester Bay . . . . .	62,203	68,050
Dover street, at South pier . . . . .	97,810	218,225
East Boston, Maverick street . . . . .	58,732	96,179
Chelsea Bridge, Charlestown . . . . .	38,356	41,033
Malden Bridge . . . . .	73,751	63,211
	32,292	42,955

#### FOR WOMEN AND GIRLS.

Warren Bridge, near Causeway street . . . . .	76,925	60,312
East Boston, Sectional Dock, Border street . . . . .	26,109	34,596
South Boston, foot of Fifth street . . . . .	38,339	44,178
Dover street, at South pier . . . . .	21,036	25,190
Commercial Point, Dorchester . . . . .	10,944	9,033
Chelsea Bridge, Charlestown . . . . .	6,634	19,568
Malden Bridge . . . . .	5,659	4,158
<hr/>		
Total, men and boys . . . . .	638,298	762,730
Total, women and girls . . . . .	185,646	197,035
<hr/>		
Total of both sexes . . . . .	823,944	959,765

## FOREIGN RAGS.

The proper treatment of foreign rags brought to this port has been the subject of a good deal of discussion during the past year. It was at first thought that disinfection by means of sulphur fumes, either on the arrival of the rags here or at the point of shipment would be sufficient, but the untrustworthiness of the inspectors of foreign ports, upon whose certificates the Board was compelled to rely, and the doubts as to the efficacy of fumigation by sulphur, led to the adoption of the following regulation, which has been strictly adhered to : —

BOARD OF HEALTH,  
32 PEMBERTON SQUARE, BOSTON, June 1, 1885.

In view of the unreliable character of the evidence as to the origin, history, and treatment of rags brought to this port from foreign ports, and in view also of the misleading character of the health certificates brought by masters of vessels from ports from which rags are shipped, and on account of the danger from cholera and other *contagia* likely to be carried by these importations, it is hereby

*Ordered*, That on and after this date all rags arriving at this port from any foreign port shall, before being discharged, be disinfected under the supervision of an officer of this Board, and in a manner satisfactory to this Board. Whenever any vessel arriving at this port from a foreign port is found to have rags on board, the Port Physician shall, before passing the vessel, ascertain, so far as is possible, the history of the rags, and the circumstances of their shipment, and, if satisfactory evidence is obtained that the port or place from which the rags were gathered or shipped was not infected with cholera or other dangerous disease liable to be carried by them, at the time of the gathering or shipment of the rags, or within the twelve months immediately preceding that time, then the Port Physician shall, after all other quarantine regulations have been fully complied with, issue the usual certificate, with the proviso that the rags on board the vessel are to be held for subsequent disinfection, and, immediately on the arrival of the vessel at her dock, the rags shall forthwith be disinfected within the bale in a manner satisfactory to the Board of Health, before being discharged. If, however, the Port Physician has reason to believe that the rags on board any vessel have been shipped from or gathered at any port or place which was, at the time of such gathering or shipment, infected with cholera or other dangerous disease liable to be carried by rags, or has been so infected within the previous twelve months, then the exterior of the bales and all the other cargo of the vessel shall be satisfactorily disinfected at quarantine before proceeding farther, after which the ves-

sel may proceed with her cargo to her dock, if, in the opinion of the Port Physician, this may be done with safety to the public health, and the rags shall be forthwith removed for disinfection within the bale before being discharged.

By Order of the Board of Health,

C. E. DAVIS, JR.,

Clerk.

NOTE. — In the above order *disinfection before being discharged* is not intended to mean *before being discharged from the vessel*, but is intended to mean *before being discharged by the Board of Health and allowed to be delivered to consignees*.

Under the above order two hundred bales of rags from Calcutta were detained at quarantine, and are still stored at the storehouse on Gallop's Island, the consignees being unwilling to subject the rags to the steam disinfection. There have been disinfected during the year, by the injection of superheated steam (50 lbs. pressure) into the bale (conformably to the rules laid down by the Committee on Disinfectants of the American Public Health Association), rags brought to this port from foreign ports as follows: —

Date.	Vessel.	Port from.	No. Bales.	Total Bales.	Lbs.
March . .	Martello, s.s. . . . .	Hull . . . . .	92	92	34,164
April . . .	Durham City, s.s. . . . .	London . . . . .	1,404		
" . . .	Iberian, s.s. . . . .	Liverpool . . . . .	157	1,561	382,777
May . . .	Tyrian, s.s. . . . .	Leghorn . . . . .	75		
" . . .	Virginian, s.s. . . . .	Liverpool . . . . .	878	2,345	810,344
" . . .	Castleford, s.s. . . . .	London . . . . .	245		
" . . .	Iberian, s.s. . . . .	Liverpool . . . . .	602		
" . . .	Bengore Head, s.s. . . . .	Leghorn . . . . .	545		
June . . .	Venetian, s.s. . . . .	Liverpool . . . . .	619	1,148	379,257
" . . .	Virginian, s.s. . . . .	Liverpool . . . . .	529		
July . . .	Iberian, s.s. . . . .	Liverpool . . . . .	73	754	237,885
" . . .	Felice B., bk. . . . .	Leghorn . . . . .	150		
" . . .	Boston City, s.s. . . . .	London . . . . .	364		
" . . .	Gothenburg City, s.s. . . . .	London . . . . .	167		
<i>Carried forward</i> . . . . .				5,900	1,844,427

Date.	Vessel.	Port from.	No. Bales.	Total Bales.	Lbs.
	<i>Brought forward</i> . . . . .			5,900	1,844,427
August . .	Virginian, s.s. . . . .	Liverpool . . . . .	99		
" . . .	Australia, s.s. . . . .	London . . . . .	140		
" . . .	Otranto, s.s. . . . .	Hull . . . . .	172		
" . . .	Stockolm City, s.s. . . . .	London . . . . .	259		
" . . .	Phœnician, s.s. . . . .	Glasgow . . . . .	442		
" . . .	Galileo, s.s. . . . .	Hull . . . . .	91	1,203	360,108
September,	Durham City, s.s. . . . .	London . . . . .	216		
"	Caledonia, s.s. . . . .	London . . . . .	122		
"	Waldensian, s.s. . . . .	Glasgow . . . . .	78		
"	Kansas, s.s. . . . .	Liverpool . . . . .	387		
"	Hibernian, s.s. . . . .	Glasgow . . . . .	89	892	284,850
October . .	Stockholm City, s.s. . . . .	London . . . . .	651		
"	Durham City, s.s. . . . .	London . . . . .	539		
"	Kansas, s.s. . . . .	Liverpool . . . . .	382		
"	Manitoban, s.s. . . . .	Glasgow . . . . .	229		
"	Boston City, s.s. . . . .	London . . . . .	396	2,107	723,267
November,	Gothenburg City, s.s. . . . .	London . . . . .	581		
"	Iberian, s.s. . . . .	Liverpool . . . . .	69		
"	Hibernian, s.s. . . . .	Glasgow . . . . .	242		
"	Salerno, s.s. . . . .	Hull . . . . .	385		
"	Stockholm City, s.s. . . . .	London . . . . .	47		
"	Carthaginian, s.s. . . . .	Glasgow . . . . .	90	1,414	380,990
December,	Durham City, s.s. . . . .	London . . . . .	231		
"	Missouri, s.s. . . . .	Liverpool . . . . .	528		
"	Virginian, s.s. . . . .	Liverpool . . . . .	200		
"	Boston City, s.s. . . . .	London . . . . .	2		
"	Prussian, s.s. . . . .	Glasgow . . . . .	101		
"	Caledonia, s.s. . . . .	London . . . . .	30		
"	Hibernian, s.s. . . . .	Glasgow . . . . .	50		
"	Kovno, s.s. . . . .	London . . . . .	111	1,251	355,381
				12,857	3,929,023

No. bales disinfected, 12,857. No. lbs. disinfected, 3,929,023.



**BURIAL-GROUNDS.**

In the care and maintenance of 37 acres of land which comprise the cemeteries, under the Board of Health, an annual expenditure of \$5,000 is made. The Board has for years recommended that these grounds should be closed against further interments, because, by permitting burials within them, the health of the city was menaced. Fully aware of this danger the Board had the City Solicitor prepare the following bill, which was passed by the Legislature of 1885: —

**[CHAP. 278.]**

**AN ACT** to amend chapter eighty-two of the Public Statutes relating to Cemeteries and Burials.

*Be it enacted, etc., as follows:—*

**SECTION 1.** Section nineteen of chapter eighty-two of the Public Statutes is amended so as to read as follows: *Section 19.* Boards of health of cities and towns may prohibit the use by undertakers, for the purpose of speculation, of tombs as places of deposit for bodies committed to them for burial; may, if in their opinion the public health requires it, close any tomb, burial-ground, cemetery or other place of burial within the city or town, for such length of time as they may deem necessary for the protection of the public health; may make all regulations which they judge necessary concerning burial-grounds and interments within their respective limits, and may establish penalties not exceeding one hundred dollars for any breach of such regulations.

**SECT. 2.** Section twenty-four of said chapter is amended to read as follows: *Section 24.* Appeals shall be tried in regular course before a jury, and if the jury find that the tomb, burial-ground, or cemetery so closed was not a nuisance nor injurious to the public health at the time of the order, and that the closing thereof was not necessary for the protection of the public health, the court shall rescind such order so far as it affects such tomb, burial-ground, or cemetery; and execution for the costs of the appeal shall issue in favor of the appellant against the city or town in which the same was situated. But if the order is sustained, execution shall issue for double costs against the appellant in favor of the board of health for the use of the city or town.

**SECT. 3.** Sections twenty-five, twenty-six, twenty-seven, and twenty-eight of chapter eighty-two of the Public Statutes are repealed.

**SECT. 4.** This act shall take effect upon its passage.

*Approved May 29, 1885.*

Thus the power to close these grounds is intrusted to the

Board, and an effort will be made to prevent any further interments in the grounds, more especially those in the more thickly settled portions of the city.

During the year Bennington street, East Boston, was graded, which left the gate and fence of Bennington-st. cemetery in such condition that it had to be rebuilt.

The South ground, in the rear of the Conservatory of Music, has been more or less a source of annoyance. The erecting of buildings on the land ceded to the Conservatory has littered the grounds, so as to give them an unsightly appearance. Last August the lightning struck the Infant tomb, completely destroying it. To remedy this the Board has removed the shattered stone, and levelled the tomb, there being no further use for it.

All the grounds, with the exception of the South Burial-ground, have been kept in good condition, and many have been made beautiful in season by tastefully arranged flower-beds. The grounds are constantly being attended to, either the grading of walks, the painting of fences, the cutting and trimming of trees, and whitewashing of walls and fences.

The Copp's Hill, and Dorchester North and Evergreen grounds, from their historic association and pleasant walks, attract numerous visitors; and Copp's Hill affords for the people of one of the most thickly settled districts at the North End a breathing-place.

List of interments in the following cemeteries during the year 1885 :—

Calvary . . . . .	1,967	Central Ground . . . . .	72
Mt. Hope . . . . .	1,677	Dorchester North . . . . .	45
Forest Hills . . . . .	663	Union Ground . . . . .	15
Dorchester, R.C. . . . .	650	Mt. Benedict . . . . .	414
Woodlawn . . . . .	669	Evergreen . . . . .	57
Mt. Auburn . . . . .	549	Bunker Hill, R. C. . . . .	72
Cedar Grove . . . . .	388	Dorchester South . . . . .	23
Bennington st., E. B. . . . .	115	Ohabei Shalom . . . . .	7
St. Augustine . . . . .	87	Codman . . . . .	21
Phipps st. Ground . . . . .	91	Gethsemane . . . . .	4

Water Hill . . .	6	Granary . . .	5
Bunker Hill . . .	9	South Ground . . .	3
Copp's Hill . . .	5	Centre-st. Ground . . .	2
St. Mary's . . .	2	Eliot-st. Ground . . .	2

## PUBLIC URINALS.

Early in the month of June the Board of Aldermen requested the Board to erect a public urinal in Charlestown, and in compliance with that request, the following communication was sent to the City Council : —

BOARD OF HEALTH, July 2, 1885.

*To the Honorable City Council, —*

GENTLEMEN, — In accordance with an order passed by the Board of Aldermen the Board of Health has examined the proposed site for a public urinal in City square, Charlestown, on the land formerly occupied by the Middlesex Railroad office, and this Board now respectfully requests permission to erect a public urinal on the site proposed.

For the Board of Health,

(Signed)

SAMUEL H. DURGIN,

*Chairman.*

There is pressing need of one or more public urinals in South Boston. The most available place would be at the foot of Broadway. If permission is obtained work on both these sites could be commenced in early spring. Even with these additions there are by no means as many urinals in the city as the needs of the public demand. At least a dozen more urinals could be placed to the advantage of the public.

There is absolute need of more closet accommodations on the Common ; although the cottages for men and women were enlarged and improved, the accommodations are none too great. It may now be necessary to either erect another cottage or else enlarge the one used by the men.

The twenty-one urinals located throughout the city are in excellent condition. They have been kept thoroughly clean, and no complaints have been made of offences arising therefrom.

## DOMESTIC RAGS.

The danger attending the storing and sorting of domestic rags in tenement-houses, especially in sleeping-rooms, has been very great, and steps were taken to prevent the possibility of the health of the city being thus endangered.

The following regulation was made and published : —

BOARD OF HEALTH, 32 PEMBERTON SQUARE,

BOSTON, Jan. 12, 1885.

*Whereas*, It is the practice with rag-pickers in this city to collect rags, old paper, and other like refuse material, from dumping-grounds, streets, and other places, and to store, sort, and otherwise handle the same within dwellings ; and

*Whereas*, In the opinion of this Board such rags, old paper, and other like refuse material, are a source of filth, and capable of conveying infectious diseases from person to person, and of otherwise creating sickness ; therefore

*Ordered*, That on and after January 15, instant, no rags, old paper, or other like refuse material, gathered or recovered from any source, shall be brought into or allowed to remain within any building used as a dwelling.

The Board has reason to believe that the order has been complied with.

The Board has been gratified by the readiness with which those engaged in the business have complied with this regulation. By their compliance the more pressing dangers are removed ; still, the Board hopes that ultimately a place or places suitable for the storing and sorting of rags may be provided by parties interested in the business, believing that a building properly arranged for such a business, with several compartments, would be a great benefit to those engaged in the rag-trade.

## LYING-IN HOSPITALS.

The Statute of 1876, entitled "An Act to regulate Lying-in Hospitals," was designed to place all such hospitals under the supervision and regulations of the Board of Health.

Those who desire to establish or keep a lying-in hospital are required to apply to the Board of Aldermen for a license,

which license is granted on the approval of the Board of Health, and must be renewed at the end of two years.

During the year 140 confinements have taken place in the licensed hospitals, and in no instance has any death been reported from puerperal disease.

These hospitals are regularly visited and inspected by the Medical Inspector.

The following list represents the names and places of the licensed hospitals : —

Mary H. Doran, 2326 Washington street.

New England Hospital, Codman avenue.

W. H. Ware, 4 Ferdinand street.

Dr. C. H. Cobb, 358 Columbus avenue.

St. Mary's Infant Asylum, 329 Harrison avenue.

E. W. Ludgate, 361 Harrison avenue.

Mary E. Dudley, 63 Palmer street.

J. M. Twitchell, 783 E. Fourth street, So. Boston.

New England Moral Reform Society, 6 Oak place.

#### INFANT BOARDING.

The provisions of Chapter 158, of the Statutes of 1876, require that whoever takes more than two infants, under three years of age, to board, shall, within two days, report the name and age of such child to the Board of Health ; and give the Board the right to enter and inspect the houses where such business is carried on.

There are at present nineteen registered infant boarding-houses, and they have reported three hundred and twenty-three infants received in addition to those already under their care.

The mortality in these houses has been small considering the unfavorable conditions under which these infants live.

The infant boarding-houses are regularly visited and inspected by the Medical Inspector.

### THE ABATTOIR.

The sanitary condition of the abattoir continues to be satisfactory in most respects. There has not been a case of Spanish fever or other contagious disease among the cattle slaughtered at the abattoir during the year. The inspector, Mr. G. W. Boynton, reports that there were inspected during the nine months from April 1, 1885, to date, 49,945 cattle, 17,927 calves, and 377,426 sheep. The amount seized as unfit for human food was 3,344 pounds of beef. Twenty-six veal and 19 cattle were sent to the dead-house.

### PROSECUTIONS.

The whole number of prosecutions for violation of the laws and regulations pertaining to the public health during the past year was 14.

There were four prosecutions each for scattering salt upon the horse-railroad tracks, and for maintaining privies where there were sewers in the streets.

Other prosecutions were filthy stable and yard, contaminated well-water, neglect to obey order of Board depositing filth on vacant lot, emptying privy without permit, and collecting grease without license, one each.

The sum-total of all costs and fines imposed in all prosecutions during the year was \$141.75.

### HAWKERS AND PEDLERS.

Under the provisions of the ordinance relating to hawkers and pedlers, 434 fish and fruit pedlers have undergone a monthly inspection. Their vehicles are generally neat and clean, and no serious annoyance has been experienced from pedlers crying their wares in the street.

There have also been licensed 132 persons to collect grease.

### APPOINTMENTS.

At the beginning of the year the Board organized by the choice of Dr. Samuel H. Durgin as chairman, and Charles E. Davis, Jr., as clerk.

During the month of April the following appointments were made for the ensuing year, which were confirmed by the Mayor: —

GEORGE W. FORRISTALL, Superintendent of Health.

JOHN H. MCCOLLOM, M.D., City Physician.

ARTHUR G. GRIFFIN, M.D., Port Physician.

WILLIAM G. McDONALD, M.D., Medical Inspector.

All of which is respectfully submitted,

SAMUEL H. DURGIN,

GEORGE F. BABBITT,

WILLIAM TAYLOR,

*Health Commissioners.*

## FINANCIAL STATEMENT.

Amount appropriated for Board of Health . . . . . \$90,000 00

Expended as follows (Jan. 1, 1886) :—

Board of Health (salaries) . . . . .	\$6,750 00
Clerk-hire . . . . .	7,037 66
Inspectors of Nuisances . . . . .	13,885 53
Inspector of Provisions . . . . .	1,275 66
City Physician and Assistant . . . . .	2,925 00
Inspector of Abattoir . . . . .	1,125 00
Messenger . . . . .	415 66
Small-pox . . . . .	5,227 92
Abatement of nuisances . . . . .	10,643 19
Public urinals . . . . .	3,564 21
Burial-grounds . . . . .	4,434 85
Horse and vehicle (Board of Health) . . . . .	347 40
Horse and vehicle (City Physician) . . . . .	418 74
Stationery . . . . .	343 03
Printing . . . . .	899 59
Advertising . . . . .	100 89
Contingencies . . . . .	2,129 72

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\$61,524 05

Amount unexpended, January 1 . . . . . 28,475 95

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\$90,000 00

Quarantine :—

Amount appropriated . . . . .	\$18,000 00
Amount expended . . . . .	14,185 53

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Amount unexpended . . . . . \$3,814 47



## Public Baths : —

Amount appropriated	.	.	.	.	\$16,000 00
Amount expended	.	.	.	.	14,262 47
					<hr/>
					\$1,737 53

## Evergreen Cemetery : - -

Amount appropriated	.	.	.	.	\$1,500 00
Income added	.	.	.	.	570 30
					<hr/>
					\$2,070 30
Expended	.	.	.	.	1,805 74
					<hr/>
Balance	.	.	.	.	\$264 56

## CITY PHYSICIAN'S REPORT.

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CITY PHYSICIAN'S OFFICE, Jan. 1, 1886.

*To the Board of Health:—*

GENTLEMEN, — I have the honor to submit the following report of this office for the eight months ending December 31, 1885. There have been 6,904 persons vaccinated, and certificates of vaccination have been given to 2,316 children, for their admission to the public schools. In every instance where a case of small-pox has occurred all in the immediate vicinity exposed to the disease have been vaccinated, requiring a visit to 20 houses.

Sixty-two men have been examined at the request of the Civil Service Commissioners, for appointment in the Fire Department. At the request of the Board of Fire Commissioners, seven cases of supposed injury or disease have been investigated.

Ninety-six men have been examined for appointment on the police force, and nine for retirement.

The bodies of 310 persons dying without a physician in attendance have been examined. These cases comprise, principally, those who die of chronic diseases, where there has been no medical care for months previous to death, and those who die suddenly from natural causes. In these cases a careful external examination is made, the symptoms learned, and a diagnosis sufficiently accurate for all practical purposes reached. The law requires a medical certificate of death before a permit is granted for burial, and these examinations are made to conform to the law, as well as to collect statistics for the bills of mortality. A tabular statement is appended.

Eighty-five reports of small-pox have been investigated. Five of these were found to be small-pox, and the patients

were removed to the hospital on Canterbury street. One death occurred. The statement of the remaining 80 reported cases is as follows: Varicella, 22 cases; measles, 5; German measles, 5; herpes zoster, 2; scarlet fever, 2; eczema, 3; tonsillitis, 1; eruption due to the administration of the potassium iodide, 1; malarial fever, 2; urticaria, 7; vaccinal urticaria, 9; vaccinia, 1; lichen tropicus, 6; irritation from the bite of the culex mosquito, 2; no disease, 12. It should be understood that the period covered by this report is for the eight months ending December 31, 1885, and not the same as that covered by the mortality tables, which embrace the calendar year. The latter period shows 11 cases and one death from this disease in the city proper.

#### CITY PRISON.

A visit has been made every Sunday morning to this institution. The following diseases have been treated: Delirium tremens, 10 cases; contusions, 4; heart disease, 3; ulcers, 3; cholera morbus, 2; colic, 2. No death has occurred at the prison during the eight months.

#### SUFFOLK COUNTY JAIL.

In this institution there have been 601 patients treated during the eight months, requiring 1,894 visits. Three men exhibiting evidences of mental alienation were transferred by order of Court to an insane asylum. Two men have died. Pneumonia caused the death of one; delirium tremens, of the other. A tabular statement is appended.

#### CITY TEMPORARY HOME.

In this institution there have been made 115 visits. Thirteen cases of confinement have been attended; ten of the children were born alive, and three were still-born. Six deaths have occurred at the Home, — four children and two adults. Cholera infantum caused three deaths, premature birth caused one, one woman died of heart disease, and one

woman was admitted in a state of collapse, caused by the excessive use of alcoholic stimulants. During the past eight months the following diseases have been treated: Puerperal state, 3 cases; cellulitis, 2; scarlet fever, 3; cholera infantum, 8; bronchitis, 6; tonsillitis, 3; diarrhoea, 6. Two patients were sent to the City Hospital for treatment.

Dr. Morton Prince, Assistant City Physician, is deserving of special mention for the faithful and conscientious manner in which he has performed the manifold duties pertaining to his branch of the service.

Respectfully submitted,

JOHN H. McCOLLOM,  
*City Physician.*

**Report of the Causes of Death Investigated by the City  
Physician for the Eight Months Ending December 31,  
1885.**

DISEASES.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
<b>I. — Zymotics.</b>									
Cholera infantum . . . . .	..	..	26	12	3	2	..	..	43
Cholera morbus . . . . .	..	..	3	1	..	..	..	..	4
Erysipelas . . . . .	1	..	..	..	..	..	..	..	1
Measles . . . . .	2	1	1	..	1	..	..	..	5
Rheumatism . . . . .	..	..	1	..	..	2	..	..	3
Tonsillitis . . . . .	..	1	..	..	..	..	..	..	1
<b>II. Constitutional.</b>									
Cancer . . . . .	2	..	3	1	..	1	2	1	10
Marasmus . . . . .	2	2	6	6	5	6	..	3	30
Phthisis pulmonalis . . . . .	1	5	9	13	5	4	11	7	55
Tubercular meningitis . . . . .	..	1	..	3	..	1	1	1	7
<b>III. Local.</b>									
Apoplexy . . . . .	2	1	1	..	2	1	..	2	9
Bright's disease . . . . .	2	3	5	3	2	..	1	1	17
Bronchitis . . . . .	3	2	2	..	1	..	2	7	17
Heart disease . . . . .	3	3	2	1	1	4	1	2	17
Meningitis . . . . .	2	..	1	..	..	2	..	2	7
Nephritis . . . . .	1	..	..	..	1	..	..	..	2
Pneumonia . . . . .	4	1	..	..	2	4	1	3	15
Other local diseases . . . . .	..	1	..	1	4	1	2	1	10
<b>IV. — Developmental.</b>									
Cyanosis . . . . .	..	3	1	1	..	1	..	4	10
Inanition . . . . .	..	1	..	1	2	..	..	..	4
Old age . . . . .	..	..	..	..	1	..	1	..	2
Premature birth . . . . .	1	2	3	3	1	1	1	1	13
<i>Carried forward</i> . . . . .	26	27	64	46	31	30	23	35	282

Report of the Causes of Death. — *Concluded.*

DISEASES.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
<i>Brought forward</i> . . . . .	26	27	64	46	31	30	23	35	282
<b>V. — Violent.</b>									
Accidental . . . . .	..	..	..	..	1	1	1	..	3
Total . . . . .	26	27	64	46	32	31	24	35	285
Still-births . . . . .	3	3	2	3	1	4	4	2	22
Total . . . . .	29	30	66	49	33	35	28	37	307
Unknown causes . . . . .	..	..	..	..	..	1	..	..	1
Total . . . . .	29	30	66	49	33	36	28	37	308
Referred to Medical Examiner . . . . .	..	1	1	..	..	..	..	..	2
Grand Total . . . . .	29	31	67	49	33	36	28	37	310

**Report of the Sick at the Suffolk County Jail, for the Eight  
Months ending December 31, 1885.**

DISEASES.	Remaining May 1, 1885.	Treated during the year.	Recovered.	Improved.	Sent to Insane Asylum.	Discharged from custody.	Died.	Remaining Dec. 31, 1885.
<b>General Diseases :—</b>								
Anæmia . . . . .	9	..	5	..	4	..	..	
Erysipelas . . . . .	12	10	..	..	2	..	..	
Febricula . . . . .	15	15	..	..	..	..	..	
Fever, intermittent . . . . .	5	2	2	..	1	..	..	
Fever, remittent . . . . .	6	2	4	..	..	..	..	
Phthisis pulmonalis . . . . .	1	18	..	4	15	..	..	
Rheumatism, acute . . . . .	6	6	..	..	..	..	..	
Rheumatism, chronic . . . . .	1	25	..	12	13	..	1	
<b>Diseases of Nerves :—</b>								
Neurasthenia . . . . .	5	..	5	..	..	..	..	
<b>Functional Diseases of the Nervous System :—</b>								
Delirium tremens . . . . .	35	34	..	..	1	..	..	
Epilepsy . . . . .	4	..	1	..	3	..	..	
Neuralgia . . . . .	1	17	5	6	7	..	..	
<b>Diseases of Intellect :—</b>								
Dementia . . . . .	2	..	..	2	..	..	..	
Mania . . . . .	1	..	..	1	..	..	..	
<b>Diseases of the Heart :—</b>								
Valvular . . . . .	7	..	..	..	7	..	..	
<b>Diseases of Bronchi :—</b>								
Bronchitis, acute . . . . .	1	10	7	4	..	..	..	
Bronchitis, chronic . . . . .	2	15	..	10	7	..	..	
<b>Diseases of Pleura :—</b>								
Pleuritis . . . . .	2	2	..	..	..	..	..	
<b>Diseases of Lungs :—</b>								
Pneumonia . . . . .	4	3	..	..	1	..	..	
<b>Diseases of Fauces :—</b>								
Tonsillitis . . . . .	2	16	16	..	..	..	2	
<i>Carried forward . . . . .</i>	8	214	102	53	3	59	2	3

Report of the Sick at Suffolk County Jail. — *Continued.*

DISEASES.	Remaining May 1, 1885.	Treated during the year.	Recovered.	Improved.	Sent to Insane Asylum.	Discharged from custody.	Died.	Remaining Dec. 31, 1885.
<i>Brought forward</i> . . . . .	8	214	102	53	3	59	2	3
Diseases of Kidney: —								
Bright's disease . . . . .	..	6	..	2	..	4	..	..
Diseases of Digestive System: —								
Colic . . . . .	..	8	8	..	..	..	..	..
Constipation . . . . .	..	12	6	4	..	2	..	..
Diarrhoea . . . . .	..	34	32	..	..	2	..	..
Dysentery . . . . .	..	3	3	..	..	..	..	..
Gastritis, alcoholic . . . . .	..	9	..	5	..	4	..	..
Diseases of Womb: —								
Leucorrhœa . . . . .	1	5	..	5	..	1	..	..
Functional Diseases of Women: —								
Pregnancy . . . . .	..	3	..	..	..	3	..	..
Diseases of Cutaneous System: —								
Acne . . . . .	..	4	..	4	..	..	..	..
Eczema . . . . .	..	10	..	6	..	4	..	..
Herpes labialis . . . . .	..	9	9	..	..	..	..	..
Herpes præputialis . . . . .	..	6	6	..	..	..	..	..
Lichen tropicus . . . . .	..	4	4	..	..	..	..	..
Onychogryphosis . . . . .	..	7	..	4	..	3	..	..
Onychia . . . . .	..	8	8	..	..	..	..	..
Phthiriasis . . . . .	..	16	16	..	..	..	..	..
Psoriasis . . . . .	..	3	..	3	..	..	..	..
Scabies . . . . .	..	17	15	..	..	2	..	..
Urticaria . . . . .	..	6	6	..	..	..	..	..
Verruca . . . . .	..	5	..	3	..	2	..	..
Diseases of the Eye: —								
Conjunctivitis . . . . .	1	6	5	..	..	2	..	..
Ecchymosis . . . . .	1	8	9	..	..	..	..	..
Hordeolum . . . . .	..	3	3	..	..	..	..	..
Iritis . . . . .	..	5	..	3	..	2	..	..
<i>Carried forward</i> . . . . .	11	411	232	92	3	90	2	3



Report of the Sick at Suffolk County Jail. — *Concluded.*

DISEASES.	Remaining May 1, 1885.		Treated during the year.		Recovered.		Improved.		Sent to Insane Asylum.		Discharged from custody.		Died.		Remaining Dec. 31, 1885.	
<i>Brought forward</i> . . . . .	11	411	232	92	3	90	2	3								
<b>Poisons:—</b>																
Opium habit . . . . .		3		3												
<b>Surgical Diseases:—</b>																
Abscess . . . . .		19	19													
Gonorrhœa . . . . .		22	8	6		6		2								
Hæmorrhoids . . . . .		8		5		3										
Orchitis . . . . .		7	2	5												
Otitis . . . . .		8		4		4										
Stricture, urethral . . . . .		7		3		4										
Syphilis . . . . .	2	18		7		10									3	
Varix . . . . .		9		2		7										
<b>Injuries:—</b>																
Abrasions . . . . .	1	5	6													
Burns . . . . .		3	3													
Contusions . . . . .	3	11	14													
Fractures . . . . .		2	2													
Sprains . . . . .		9	9													
Wounds, gunshot . . . . .		2	2													
Wounds, incised . . . . .		14	13												1	
Wounds, lacerated . . . . .		8	8													
Wounds, punctured . . . . .		8	8													
Wounds, scalp . . . . .	1	9	10													
<b>Total</b> . . . . .	18	583	336	127	3	124	2	9								

## REPORT OF THE PORT PHYSICIAN.

---

QUARANTINE STATION,  
BOSTON HARBOR, January 1, 1886.

*To the Board of Health:—*

GENTLEMEN,—I have the honor to submit to you the report of the Quarantine Department, for the eight months completed December 31, 1885.

By the order of your Board active quarantine began May 15, instead of June 1, as formerly. Since that time the inspection of vessels has been of the most searching character, necessitated by the appearance of cholera in Spain and the Mediterranean ports, the outbreak of small-pox in Canada and the Provinces, and the virulent type of yellow-fever in Mexico, Panama, and the West Indies.

May 7 the steamer "Scandinavian," from Glasgow, was detained; one case of measles was removed to the quarantine hospital, and the vessel fumigated for six hours.

May 18 the ship "Antelope," Captain Peabody, arrived in quarantine, 141 days out from Calcutta. In the cargo were 202 bales of rags. These were reported to have been gathered and packed in the English section of the city, which was at that time free from cholera; but as a matter of precaution they were removed to the storehouse on Galloup's Island, where they still remain.

May 26 the chief engineer of the steamer "Hermann," from Antwerp, was removed to the Quarantine Hospital, ill with modified variola. The crew were vaccinated, and the steamer thoroughly fumigated for twelve hours, and discharged after twenty-four hours' detention.

August 19 the bark "J. W. Dresser," from Cadiz, a cholera-infected port, was detained forty-eight hours for fumigation and disinfection.

September 4 the schooner "Dallas Hill" was towed from Chelsea to Gallop's Island, having on board the captain, sick with small-pox, and a crew of four who had been exposed to the disease. The captain had left his home in New Brunswick twelve days previous, where he had a wife and child suffering with the same disease, they in turn having contracted variola from a sailor who had been sick during his passage from London to St. John. The captain died September 8, of confluent small-pox. The vessel was thoroughly fumigated and disinfected, and, together with the crew, detained two weeks. No other cases appearing, they were discharged.

September 28 the steamer "Craighill," from Progreso, Mexico, came to anchor in quarantine with four cases of yellow-fever on board. These were removed to the hospital on Gallop's Island. One died five days after admission to the hospital. The others were discharged well in two weeks. The steamer was detained fifty-six hours in quarantine, fumigated and disinfected, then discharged.

October 13 bark "Nora," from Heyers and Marseilles, and November 2 the bark "Stephen G. Hart," from Cadiz, were detained in quarantine for fumigation and disinfection.

November 12 the bark "Jessie McGregor," from Havana, with sugar, reported one death from yellow-fever. The vessel was fumigated for twelve hours.

The vessels boarded during the year were from the following ports:—

West Indies . . .	291	Africa . . .	14
Liverpool . . .	79	Sicily . . .	3
London . . .	31	Spain . . .	3
Glasgow . . .	16	Russia . . .	2
Hull . . .	15	Scotland . . .	1
South America . .	49	Mexico . . .	6
Central America .	3	Italy . . .	7
Antwerp . . .	6	France . . .	3
Hamburg . . .	2	East Indies . .	17
Azores . . .	10	Bahamas . . .	5

## BOARD OF HEALTH.

81

Bermudas . . . . .	9	Egypt . . . . .	1
Singapore . . . . .	1	British Provinces and	
Madagascar . . . . .	2	Newfoundland . . . . .	543
Calcutta . . . . .	2	Coastwise . . . . .	89
Cape de Verde Islands, . . . . .	2	Mediterranean ports, . . . . .	12

Number of vessels boarded . . . . . 1,224

Classified as follows : —

Steamers . . . . .	340
Barks . . . . .	123
Brigs . . . . .	113
Schooners . . . . .	637
Ships . . . . .	11

Total . . . . . 1,224

Number of vessels fumigated . . . . . 48

Classified as follows : —

Steamers . . . . .	41
Barks . . . . .	6
Schooners . . . . .	1

Total . . . . . 48

Number of persons removed from vessels . . . . . 60

Number of persons vaccinated . . . . . 3,397

Number of vessels in which the cargo, or part,  
consisted of rags . . . . . 28

Number of hides and wool . . . . . 43

Number of paper-stock . . . . . 37

The receipts of the department have been as follows : —

From Quarantine Fees : —

Steamers . . . . .	340	@	\$8 00	. . . . .	\$2,720 00
Barks . . . . .	123	@	8 00	. . . . .	984 00
Ships . . . . .	11	@	8 00	. . . . .	88 00
Brigs . . . . .	113	@	5 00	. . . . .	565 00
Schooners . . . . .	637	@	5 00	. . . . .	3,185 00
					<hr/>
					\$7,542 00

*Carried forward* . . . . . \$7,542 00

<i>Brought forward</i>	.	.	.	.	.	\$7,542 00
For vaccinating, 3,397 @ 0 25	.	.	.	.	.	849 25
For fumigating: —						
Steamers	.	39	@	\$10 00	.	\$390 00
"	.	1	@	17 00	.	17 00
"	.	1	@	15 00	.	15 00
Barks	.	5	@	10 00	.	50 00
"	.	1	@	12 00	.	12 00
Schooner	.	1	@	15 00	.	15 00
						<hr/> 499 00
Total receipts	.	.	.	.	.	\$8,890 25
Turned into City Treasurer	.	.	.	.	.	4,578 18
						<hr/>
Balance cash on hand and uncollected	.	.	.	.	.	<u>\$4,312 07</u>

The appropriation of this department for the year commencing May 1, 1885, was \$18,000. Of that amount \$10,381.62 has been expended for the following purposes:—

Salary of Port Physician (8 months)	.	.	.	.	.	\$800 00
" Assistant Port Physician (8 months)	.	.	.	.	.	566 64
" All other employes	"	.	.	.	.	4,313 92
Subsistence, Gallop's Island	.	.	.	.	.	\$1,173 01
" Steamers	.	.	.	.	.	1,182 11
Supplies, Gallop's Island	.	.	.	.	.	335 58
" Steamers	.	.	.	.	.	734 27
Repairs of steamer "Samuel Little"	.	.	.	.	.	914 11
" " "Relief"	.	.	.	.	.	50 87
Printing	.	.	.	.	.	28 93
Water-rates	.	.	.	.	.	100 00
Vaccine virus	.	.	.	.	.	12 75
Nursing	.	.	.	.	.	58 94
Sundries	.	.	.	.	.	110 50
						<hr/>
Total	.	.	.	.	.	\$10,381 62

Leaving a balance of \$7,618.38 for the remaining four months of the financial year.

The following table has been prepared as a continuation of that which appeared in the fifth annual report of this department, to show the number of vessels and passengers which have been examined at this station from 1877 to 1885, inclusive : —

Years.	No. of Vessels.	No. of Passengers.
1877	527	4,411
1878	561	4,856
1879	497	7,266
1880	565	14,824
1881	630	25,255
1882	602	35,060
1883	715	41,671
1884	724	30,224
1885	1,313	32,872
Total in nine years,	6,134	196,439

From the above table it will be observed that the work of the department is gradually increasing ; the number of vessels examined in the past year is nearly double that of any former year. This is due mainly to the fact, that since September 10, owing to the prevalence of small-pox in Canada and the provinces, quarantine has been placed on all vessels hailing from any port in the British provinces and Newfoundland. November 22, 27 vessels passed through quarantine, the largest number that has ever been boarded at this port in one day.

The land under cultivation at Gallop's Island, by the careful management of Mr. Smith, the overseer, has borne crops fully up to the average of past years.

A large amount of produce has been raised on the island, including hay, grain, and vegetables, sufficient for the wants of the department.

The dairy has supplied the island and steamer with milk, and with butter to a certain extent.

The live stock at the present time consists of one horse, three cows, five hogs, and poultry.

The unusually severe gales and high tides which we have had this winter have done considerable damage to the southwestern end of the island, washing away part of the road leading from the wharf to the hospitals, and about fifteen feet of the embankment between the barn and the carpenter shop. If something is not done, in the way of extending the sea-wall at this end of the island, it will be necessary within a few years to move the carpenter shop, and in all probability the barn also.

During the heavy gale which occurred on November 2 the small steamer "Relief" broke adrift from her moorings and went on to the beach at Gallop's Island, making a complete wreck of the hull. The boiler and engine, however, were saved, and are in good condition. This was a great loss to the department, as she was used in boarding vessels during the absence of the "Samuel Little" from any cause, such as running for the "J. Putnam Bradlee" in the spring, towing bath-houses spring and fall, or hauling up for repairs.

The quarantine steamer "Samuel Little" was thoroughly overhauled and repaired last June. Since then the boiler has been patched, and other repairs made on the vessel.

The quarantine hospitals will need two coats of paint on the outside the coming spring, and the overseer's house will require painting inside and out.

The medical staff remains the same as last year.

Respectfully submitted,

ARTHUR G. GRIFFIN, M.D.,

*Port Physician.*

## REPORT OF SUPERINTENDENT OF MORGUE.

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CITY MORGUE, NORTH GROVE ST.,  
BOSTON, Jan. 1, 1886.

*To the Board of Health:—*

GENTLEMEN, — I have the honor to report that, for the year 1885 there were received at the North Grove-Street Morgue 103 bodies of persons deceased. Of these, 12 were unidentified at the time of reception, and subsequently three were identified.

There were made by the Medical Examiner and his associate, 37 autopsies, at which I assisted.

Certain sums of money have been expended in making the repairs rendered imperative by time and decay in order to keep the building in proper condition.

A small sum has been expended with your authority for the purchase of rubber cloths, hose, brooms, coal, gas, and water.

The building is now in good condition, with the exception of the curtain of the skylight in autopsy-room, which may be repaired and put in place at a slight expense.

During the coming season it may be desirable to place a larger stove in the autopsy-room, as the one now there is not sufficient properly to heat the room in the coldest weather.

I have the honor to be,

Very respectfully,

F. L. BRIGGS,  
*Superintendent.*



## REPORT OF INSPECTOR OF PROVISIONS.

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*To the Board of Health:—*

I herewith submit a detailed account of the amount of provisions seized and condemned by me during the last nine months of the year 1885:—

8,368	pounds	beef, mutton, lamb, and veal.
2,830	“	beef livers.
40	“	salt pork.
96	“	bear meat.
90	“	bologna sausage.
50	“	venison.
25	“	pickerel.
4	“	haddock.
941	“	poultry.
40	“	smoked fish.
23	barrels	onions.
2	“	pop corn.
43	“	squash.
$\frac{1}{2}$	barrel	pears.
1	“	apples.
10	barrels	radishes.
12	“	cabbage.
10	“	lettuce.
106	“	cantaloupes.
179	“	turnips.
71	“	potatoes.
43	“	sweet potatoes.
225	bushels	cucumbers.
51	“	summer squash.

56 bushels turnips.  
7    "    tomatoes.  
884    "    beans (string, etc.).  
800 pounds squash.  
11 crates peaches.  
30 $\frac{9}{12}$  dozen eggs.  
180 quarts strawberries.  
60    "    cherries.  
100    "    pickles.  
34,311 watermelons.  
47 boxes raisins (about 1,200 pounds).  
77 game-birds.

Respectfully submitted to the Board of Health of the City  
of Boston,

WILLIAM MACKIN,  
*Inspector of Provisions.*

JANUARY 1, 1886.

